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Contents

Editor's Introduction 3
Frances O'Neill

The Gradual and Sudden Paths of Tibetan and Chan Buddhism: A Pedagogical Perspective 9
Ngai-ying Wong

The Implications of Confucianism for Education Today 25
Frederick K.S. Leung

The Place of Formal Logic in Critical Thinking Courses 37
Brian MacPherson

"The Riddle of the New Riddle": Or, Goodmanic Method Applied to Goodman 49
Rupert Read

Piaget, Dewey, and Complexity 75
Kathleen Martin, Douglas J. Simpson, & Jeanette Gallagher

Toward the Intellectual Understanding of Anti-Intellectual Popular Culture: Abbott and Costello's *Here Comes the Co-Eds* (1945) 83
Michael A. Oliker

Binding Halves of the Self: R.D. Laing and a Troubled Adolescent 95
Anthony G. Rud Jr.

List of Contributing Authors 8

Editor's Introduction

Frances O'Neill
Northern Michigan University

As this issue of the *Journal of Thought* goes to press, most of us will be completing another semester. The lure of summer is strong. Whether we find ourselves back in the classroom for the summer session, in our own study pondering those interesting questions so often put aside during the academic year, or simply on our own back porch, reveling in the summer light, the fact is that summer always means a change of pace and almost always one less harried than that of the semester just finished.

For a number of years, summer meant going back to school as I pursued my graduate studies in the brief hiatus from the public school classroom. Those summers have left an indelible mark on all the summers which have followed. I cannot hike certain trails at our northwoods camp today without sensing the companionable—if also formidable—presence of Dewey, Peirce, and William James, for it was while pacing these trails over and over, that I mentally prepared for my Masters' Comprehensives. And while preparing the little guest cabin for visitors, I am suddenly aware of a palpable sense of anxiety, a holdover from those summer mornings when I sat at the little table and tried to make sense of Habermas for my dissertation. When I finish this project, I vowed back then, I will never ever sully the serenity of these summer mornings with anything so abstruse as philosophy.

But, in fact, I did. For, as it turned out, there is something conducive to dealing with difficult subjects when one's desk is a small pine table awash in a pool of early morning summer sun, when the only sound is the rose-breasted grosbeak, caroling from her perch high in the pine outside

one's window, and the demands of the classroom are still two months away. It was on mornings such as this that I struggled through Heidigger's *Being and Time*, digested Morris Cohen's *Logic*, and delighted in the essays of Isaiah Berlin. So ingrained did the habit become that selecting the contents of my bookbag soon took priority over choosing clothing or even food for the annual two-week trip to camp. Picking which books to bring along gave one the same little thrill of pleasure as did putting together just the right guest list for a dinner party, but without the attendant worries about wines, menu, and table linens. Two weeks with John Rawls and John Dewey and I didn't even have to put out clean towels—I could ask for nothing more!

I hope that this summer finds you also with time, a patch of early summer sun, and the itch to tackle something new. Don't worry if you have forgotten your bookbag; this issue of *Journal of Thought* is designed to set you on the path of exploration with companions both familiar and not so familiar. Find that patch of sunshine, pull up a comfortable chair, and enjoy your summer guests.

We begin with two pieces from scholars at universities in Hong Kong. Each explores the educational implications of two great strands of Eastern thought—Buddhism and Confucianism—and, through their juxtaposition, illuminates the philosophic tension between what Habermas would call the monological subject, whose universe is found within, and the communicative agent who works intersubjectively to construct a universe outside herself.

Ngai-Ying Wong presents "The Gradual and Sudden Paths of Tibetan and Chan Buddhism: A Pedagogical Perspective" as a necessary counterpoint to the prevailing Confucianism of Asian education. How, Wong asks, can one effectively assume one's role in the social network—the goal of Confucian education—until one has mastered the self-awareness which is the *sine qua non* of Buddhist education? Wong explicates some of the dimensions of such Buddhist education, a few of which will, interestingly, sound a familiar Deweyan note. Note especially the similarity in intent and outcome of Dewey's "felt difficulty" and the Buddhist "threat of discomfort."

Frederick K. S. Leung makes the case for Confuciansim in his article, "The Implications of Confuciansim for Education Today." He calls our attention to the universally high standards set by East Asian students in all manner of international comparative studies, standards which, he argues, have their roots in the Confucian culture. Leung contrasts this culture, with its emphasis on integration and harmony, with Western cultures with their emphasis on independence and individualism and offers the following Chinese definition of man: "'Man' can only be defined

in terms of his social relations—he is the sum total of his social roles." Confucius, it would seem, had anticipated the anti-essentialism of postmodern thought by several centuries!

When one hears the term Western thought, surely one's own thoughts turn inexorably to logic. It is no coincidence that the author of a marvellously idiosyncratic history of Western Philosophy should also have written the magesterial *Principia Mathematica*. For Bertrand Russell formal logic was an important foundation of Western thought. Brian MacPherson suggests that it ought also take its place in the undergraduate curriculum. In "The Place of Formal Logic in Critical Thinking Courses," MacPherson offers some suggestions for using the structures of formal logic to assess arguments based on informal fallacies, not, he hastens to assure the reader, because he believes there is no such thing as an informal logic of argumentation but, rather, because knowledge of formal logical structures can simplfy analysis of at least some informal fallacies.

If your summertime reading has taken you through MacPherson's arguments unscathed, you may wish now to investigate some of the implications of thinking not deductively but inductively. We assume the rationality of our inductive conclusions based on the enumeration of verifiable instances of our hypotheses. But what if there exists a hypothesis for which we cannot guarantee continued verification? On what basis can we reasonably carry on the practice predicated on that hypothesis? Rupert Read takes us through a fascinating account of the ruminations of American philospher Nelson Goodman, who suggests that the predicates on which we build our hypotheses are at least as important as the data we use in confirming them. In his ""The Riddle of the New Riddle'; or, Goodmanic Method Applied to Goodman," Read examines the implications of applying Goodman's methodology to Goodman's own theory to suggest that those anti-Foundationalists who have taken Goodman as their champion may not, in fact, have the last word.

If Nelson Goodman is not as familiar a name as some, all our readers will recognize those of Jean Piaget and John Dewey. What would happen should they be summer houseguests on the same weekend? Kathleen Martin, Douglas J. Simpson, and Jeanette Gallagher suggest that they would find a lot of epistemological common ground. In "Piaget, Dewey, and Complexity," the three authors point out that both Dewey and Piaget critiqued the dominant view of empircism from the same epistemological perspective. Both viewed cognition as an interactive process in which environment and mind , to-be-known and knower, were the inseparable agents acting on and reacting to one another. Although this is no longer a new argument, Martin, Simpson, and Gallagher point out that such a

view of cognition necessarily complicates the pedagogical issue; the one-size-fits-all mentality of teacher-proof curriculum and standardized tests hardly takes into account the real nature of cognition. For this reason, the three argue for a rereading of Dewey and Piaget so that truly substantive research on the nature of education can be undertaken.

Michael A. Oliker contends that much can be learned about education, indeed, any social phenomenon, by a careful examination of its presentation in the popular arts of the day. To illustrate his point that the 1940s marked the beginning of a shift in public attitudes toward education from a basic optimism to "deep-rooted cynicism," and that that shift can be unpacked in an analysis of popular art, Oliker gives us "Toward the Intellectual Understanding of Anti-Intellectual Popular Culture: Abott and Costello's *Here Come the Coeds* (1945)." Oliker outlines the rather improbable plot, set in a mythical school for girls, Bixby College, and draws the implications for women's issues, educational policy, and a general reading of the times. Bixby College, it is clear, is not a school where Goodman's Riddle is likely to furrow many brows! Nor, and this is the thrust of Oliker's argument, did Americans in the 1940s expect it to be.

Finally, we end as we began—considering the educational implications of thinkers who see successful assimiliation into society as a primary end of education. For Anthony G. Rud Jr. it is the work of R.D.Laing, rather than Confucius, who affords a model for such successful entry into the world. In "Binding Halves of the Self: R.D.Laing and a Troubled Adolescent," Rud first explicates Laing's "science of persons." Working with schizophrenics, Laing was intrigued by the split in personality which always left important aspects of the self hidden. He came to reject the simplistic view of human beings solely as objects which could be described as merely biochemical organisms. While it is true that such a view correctly assesses the effects of external causality, it entirely neglects those effects which the organism itself, as independent agent, causes. Rud then offers a short case study in which he uses Laing's science of persons as the organizing principle in dealing with a young schizophrenic teen. If Rud's student was incapable of making a fully Confucian transition into society, he was enabled, Rud states, to realize that he was capable of effective action, that, to however slight an extent, he could take responsibility for his own actions.

Well, I hope our readers will find something in this issue to pique their interest. If a few of you are moved to add another volume to your own summer bookbag, we have succeeded.

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We would also like to call your attention to our newly reformatted Editorial Review Board. We are delighted that these distinguished scholars have joined forces with Caddo Gap Press and myself in an effort to continue and enhance the *Journal of Thought* as a truly serious academic journal. One of our reviewers asked if we had made provisions for a public forum on the articles published here. We have not, but only because few of you have been moved to respond to what you have read in these pages. Please write to us with your comments, criticisms, or rebuttal. We would love to offer a point/counterpoint option in some future issues.

List of Authors

Jeanette Gallagher is an adjunct professor in the College of Education, Lehigh University, Bethlehem, Pennsylvania.

Frederick K.S. Leung is a professor and dean of the Faculty of Education, The University of Hong Kong, Pokfulan Road, Hong Kong.

Kathleen Martin is a professor in the Division of Education and Human Sciences, Mississippi University for Women, Columbus, MIssissippi.

Brian MacPherson is a lecturer in the Department of Humanities, College of Arts, Sciences, and Letters, The University of Michigan-Dearborn, Dearborn, Michigan.

Michael A. Oliker is an adjunct faculty member with the Department of Educational Leadership and Development, Northeastern Illinois University, Chicago, Illinois.

Rupert Read is a lecturer in the School of Economics and Social Studies, University of East Anglia, Norwich, United Kingdom.

Anthony G. Rud Jr. is a professor and associate dean of the School of Education, Purdue University, West Lafayette, Indiana.

Douglas J. Simpson is a professor and dean of the School of Education, Texas Christian University, Fort Worth, Texas.

Ngai-ying Wong is a professor in the Department of Curriculum and Instruction, Faculty of Education, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong.

The Gradual and Sudden Paths of Tibetan and Chan Buddhism: A Pedagogical Perspective

Ngai-ying Wong
Chinese University of Hong Kong

The Gradual and Sudden Paths

"Lord Buddha taught 8,400 paths catering for the 8,400 types of sentient beings."[1] In essence, these 8,400 paths may be categorized into two distinct approaches—the gradual path and the sudden enlightenment.

The Council of Lhasa was often quoted to show the apparent conflict of these two approaches. Legend has it that in the 8th century the Indian scholar Kamalashila (740-795) engaged in a series of debates with the Chinese monk Hwashang Mahayana at Samye Monastery in the presence of the Tibetan king, Trisong Detsen (742-797). The former held that enlightenment can only be attained by gradual yogic practices while the latter subscribed to the belief of sudden enlightenment. In the debate Hwashang Mahayana was defeated and left in disgrace because the Tibetan did not accept the idea of sudden enlightenment.[2]

In fact, such a debate happened in the history of Chan (zen) school of Chinese Buddhism itself. Undoubtedly, sudden enlightenment is the heart of Chan Buddhism. Its origin may be dated back to the dialogue between Sakyamuni Buddha and Kasyapa (see below) and was much elaborated later on by the Sixth Patriarch Hui-Nang (638-713) decades after Chan was transmitted to China by the Indian master Boddhidharma. The famous story about Hui-Nang goes like this. When the Fifth Patriarch was about the pass his lineage to his disciples, he asked those of his followers who wished to take up Patriarchship to submit verses

illustrating their level of realization. First came the great disciple Xen-Xiao (?-706), who wrote:

> The body is a boddhi-tree;
> The mind is the stand of a clear mirror;
> Cleanse it at all times,
> So it will not get dirty.

Then came Hui-Nang who wrote:

> There is no tree in the boddhi [awareness]
> Nor has the clear mirror any stand;
> There is nothing what-so-ever;
> Where can the dirt adhere?

These two verses clearly illustrate the difference between the gradual path and sudden enlightenment. By accumulative yogic practices, as in the continual cleansing of dirt, it is anticipated that one could reach enlightenment. There is a similar line of thought in the analogy given by H.E. Tulku Urgyen Rinpoche[3]: "When pure gold is covered by dirt it is not obvious that it is gold, even though this dirt is temporary. But once it is removed we realize that the gold is gold. In the same way, when our confusion is purified, the wisdom which is our basic wakefulness is made manifest." We should note, however, that this saying does not apply exclusively to either the gradual or the sudden approach to enlightenment.

Traces of sudden enlightenment can be found in the scriptures, too. Two parables in the *Surangama Sutra* tell of a person who suddenly recognizes the different directions in a city in which he had lost his way while another person realizes he hasn't, in fact, lost his head though he sees it in the mirror. The *Sad-dharma-pundarikam* (Lotus Sutra) also talks about a beggar who suddenly realizes he is carrying a wish-fulfilling gem without noticing it and all of a sudden becomes rich. These parables clearly contain the notion of sudden enlightenment.

Advocates of the gradual path, however, insist that enlightenment can only be fulfilled through practices over a period of three immeasurable aeons (kalpas) as stated in the scriptures.[4]

The gradual path can best be likened to the elaborate teachings concerning the generating and completion stages in Tibetan Buddhism, in particular, the Nine Vehicles (Yanas) of Samatabhadra. On the other hand, sudden enlightenment has often been demonstrated by great acts of Chan masters through the ages.

The wide variety of traditions and paths in Buddhism reflects the numerous capacities of its followers. In Nyingmapa, all these different paths are synthesized into a single system showing the different stages of spiritual development under the name of Nine Vehicles of Samatab-

hadra.[5] In sum, according to the Tibetan Buddhist tradition, the Buddhist path exhibits a very structured training schedule which begins with preliminary practices, visualisation and training of inner energy, and finally reaches the summit of great perfection. This view may be quite different with those expressed in the ways Chan masters used to enlighten their disciples.

Chan's Way

The legend of the origin of Chan Buddhism tells us that once when Lord Buddha was about to deliver a sermon in Gridhrakuta Mountain, he did not say anything. Instead, he held a flower in his hand. Upon seeing this, the great disciple Kasyapa smiled, and Lord Buddha declared that Kasyapa had realized the meaning and would pass on this "lineage beyond words." The following stanza was uttered by the Buddha:

> The way resembles no ways whatsoever,
> The no-way is in itself a way,
> Now is the time to transmit the no-way,
> When did various ways follows a way ?

Thus, the Chan masters follow various peculiar ways, but none of them was better known than the beating of De-Shan and the shouting of Lin-Ji (Rinzai). In Cai's analysis, she identified three categories of such "non-routine" modes of teaching used by Chan masters: use of symbols, use of words, use of gestures (including the raising of the eyebrow, erection of finger, snapping of the fingers, slapping the face, waving of the hand, beating, and shouting) and silence (pause, remain in solitude, rise from the meditation seat, dismiss and return to the Master's room).[6] Nan further classified the underlying purposes of such teaching techniques as (a) receiving the disciple, (b) delineating the state of realization, (c) assessing the caliber, (d) drillings and practices, (e) exchanging the states of realization, and (f) preparing for future application.[7]

However, most of these transmissions are conveyed "from heart to heart." Great Chan masters know the purpose themselves. When such methods are used, they never explicitly tell the principles behind them. Since all these are adjusted according to the temperament of individual students and are implemented according to each situation; it would be of little use repeating them in other similar situations. That is why the Chan master Huang-Bo exclaimed that "there is no Chan master in the Tang empire."[8] We will explore the Chan's way in the following four aspects.

Experience

The following story (Kung-An or Koan) was recorded in *Kudzu Vine Collections*[9]:

> Once Shan-Gu asked Abbot Hui-Tang "What is the profound mystery of Chan ?" Abbot Hui-Tang responded, "Haven't you heard the words in *The Analects of Confucius*, 'I have concealed nothing from you?' In Chan, nothing is hidden from you." The man reflected that he still did not understand. Thus, Abbot Hui-Tang took him into the woods. The Master asked, "Do you smell the fragrance of the osmanthus?" When the man responded, "Yes!" the Master exclaimed, "There, I haven't hidden anything from you!"

What Abbot Hui-Tang was referring to is the awareness in personal experience. In fact, similar themes have been expressed in Chinese scriptures, the most famous of which is the dialogue of Confucius with his student.[10] One day when Confucius said, "I want to remain speechless," his disciples Zhi-Gong asked, "If the Master remains speechless, how can we disciples elaborate on your words ?" To which Confucius replied, "Do the heavens speak ? The changing of the seasons, the growth of various beings, do the heavens speak [in order to express these phenomena]?"

Thus, experiencing is far more important than the delivery of knowledge. Here is another story:

> When the great zipherist Bai-Ya learned to play zipher under the Master Cheng-Nian, there came a time when the Master told him that he had taught him all he knew and that he was going to introduce his own master to him. Thus, Master Cheng Nian led Bai-Ya to the seashore and asked him to wait for him while he rowed away in a boat to meet his master. After some days, the Master did not return so Bai-Ya passed the time by practising the compositions that his Master had taught him. After a while, he realized that his music had become inseparable from the voice of Nature. At that instant, he realized that Nature was his master's teacher.[11]

Beyond Words

Chan Buddhism stresses the inadequacies of language since most experience is inexpressible in words. It is often said that the theme of Chan Buddhism is the "Non-establishment of words, pointing directly to the mind, and attaining Buddhahood upon seeing the nature." The Sixth Patriarch is known to be illiterate but he is by no means ignorant. This could best be illustrated by the dialogues of the Sixth Patriarch Hui-Nang with Nun Wu-Jin-Zhang and the Monk Fa-Da[12]:

> Nun Wu-Jin-Zhang was very familiar with the *Maha-parinirvanam Sutra*, and as she recited the sutra to Master Hui-Nang, the master quickly understood its meaning. When the nun asked the meaning of certain words in the script, the Master replied, "I am illiterate but you can ask me the meaning of any part of the sutra." The nun said, "How can you know the meaning when you don't even know the words ?" Hui-Nang said, "the profound teachings of the Buddha have nothing to do with words."

The similar experience of Monk Fa-Da was also told in the *Platform Sutra*. Another point to note is that ideas precede words and consciousness precedes ideas. The following story in *Record of Lineage Transmission in the Years of Jin-De* may illustrate this point:

> Once Xian-Yen Zhi-Xian asked his disciples, "Imagine a person climbed up a tree. To hold himself upright, he bites onto a branch. Suddenly, someone asks, 'what is the essence of Buddhist teachings ?' Now what can he do? If he does not respond, he is showing disrespect to the person asking the question but if he opens his mouth, he will drop to the ground and kill himself. Tell me, how can he get out of this embarrassment?" Elder Zhao answered, "I am not concerned about how he reacts when he climbed up the tree, I am more concerned about the time before he climbed." At that the Master laughed.

In this story, Elder Zhao could be referring to the answer prior to specific situations, the innate awareness beyond words. The Chan master never missed the chance of grasping the moment when a disciple is about to utter his verbal response to questions to enable the disciple to experience the awareness before the materialization of ideas. This could be the purpose of various "peculiar" methods employed by great Chan masters. The shout of Lin-Ji Yi-Xuan (?-867) as recorded in *The Assembling of Five Lamps* (Song Dynasty) is one such famous method:

> The Master (Lin-Ji) told the monks, "Sometimes a shout is like a Diamond King sword, sometimes a shout is like a lion crouched on the ground, sometimes a shout is like a inspecting staff making shadows on the meadow, and sometimes a shout is not used as a shout, how can you understand all that?" [Just as] the monk wished to debate, the Master shouted.

In spite of this, could there be some resemblance in the use of sound, gesture, and movements of the limbs in Tibetan debates?[13] In Tibetan Buddhism, a spiritual master could sometimes make use of shouts of "PHAT" to help the disciples cut through attachments in their meditations.[14]

Threat of Discomfort

It was said in *The Analect of Confucius* that "Enlightenment comes

when one is stunned and understanding when one is aroused" (7:8). Understanding, as opposed to rote learning, is often stressed in education. It is pointed out by the educational psychologists that the process of problem solving, which may lead to the transcendence of the mind, can start only when one experiences a "threat of discomfort."[15] Thus, one of the major tasks of Chan masters is to arouse a state of perplexity (usually by the use of dilemmas and conflicts) of the disciples. One of the most frequently cited among all Chan stories is the following which appears in *The Gate of No-door*:

> When Monk Koti first seated for meditation in a hermitage, a nun, called Shiji, wearing a rain hat, came. She circled around the hermitage three times then called out, "Take away my hat if you can speak."[16] The monk could not respond. At first he decided to leave for other places so that he can put the case to other learned scholars. But one day Master Tian-Lung came and Koti told him the story. While listening to him, Master Tian-Lung held up a finger. Upon seeing this, Koti experienced sudden realization. Thus, thereafter, Koti held up a finger to preach without saying a word.
>
> One day, a visitor asked Koti's pupil the way his master teaches. The boy held up his finger. When he told his master what he had done to the visitor, Koti took out a knife and chopped off his finger. The boy thus ran away screaming but Koti called him back and when the boy turned his head, Koti held up his finger. At that moment [when the boy tried to hold up his shortened finger], he suddenly realized.

While it is not easy to decipher the myth of how Monk Koti got enlightened when his own master held up his finger, the purpose in giving this treatment to his pupil is clear. For a time the boy may have imitated his master's technique and might even be successful. He simply thought that this action will lead to realization. Actually, every scenario used by Chan masters was written to suit a specific time and situation and for a special disciple. Not only that, they are spontaneous, with no planning (that is why Master Huang-Bo said that there are no masters but there is Chan). Here, the master skillfully posed a dilemma before the boy and it is through his experience that the boy finally comes to realization. Thus, the boy was led to repeat the scenario in a completely fresh way.

In fact, great faith, great doubt, and strong determination were identified as the "three essentials of Chan Buddhism" by Kapleau.[17] He elaborated that, in Chan, "'doubt' implies not skepticism but a state of perplexity, of probing inquiry, of intense self-questioning."

In the famous dialogue between Socrates and a slave boy in front of Meno, Plato demonstrates that knowledge comes from insight which he calls "recollection."[18] One way employed by Chan masters is raising

conflicting questions in order to create a state of perplexity among the disciples.[19] The questions were asked, not just to get conventional answers like those asked in a quiz, or just to find out the truth, but rather, through a series of assertions and refutations, the disciple is led through an experience of reflection. The debate in the Tibetan tradition where the conclusion is unimportant has the same purpose. This is clear from the words of the Sixth Patriarch Hui-Neng in Chapter 10 of his *Platform Sutra* where he taught his disciples how to transmit the dharma:

> If someone asks you of the meaning [of something], use "emptiness" in response to questions on "reality," use "reality" in response to questions on "emptines," use "saint" in response to questions on "mundane," use "mundane" in response to "saint." When two phenomena are contrasted together, the middle way will emerge. So we have questions and answers. All other questioning will follow this method and the truth will not be lost. Suppose someone asks "What is darkness?" The answer could be, "Brightness is the cause, darkness is the condition; where there is no brightness, there is darkness." We use brightness to illustrate darkness and use darkness to show brightness. Our minds go to and fro between these two notions, the middle way will emerge. Other questioning will follows this. When you transmit the dharma in the future, you should adopt this kind of teaching so that the spirit of our school will be maintained.

Reflection and Mindfulness

Cai identified the following uses of words by Chan masters: affirmative statements, negating statements, questioning, interrogative statements, query on given responses, conditioning statements, and exclamations.[20] The categories of paradox, going beyond the opposites, contradiction, affirmation, repetition, and exclamation of the use of verbal techniques were also identified by Suzuki.[21] In fact, different qualities of questions, yielding different effect, have long drawn the attention of educational psychologists and indeed, we don't need a second person (the master) to raise all these questions. When one is frequently confronted with various kinds of questions, one is very likely to raise questions for oneself. This could be the basis of introspection and finally one becomes reflective.[22]

Watching one's mind to maintain a spirit of awareness is often stressed in Buddhist practices, as illustrated in Chapter 2 (Watchfulness) of *Dhammapada*[23]:

> Watchfulness is the path of immortality:
> Unwatchfulness is the path of death.
> Those who are watchful never die:
> Those who do not watch are already dead.

Gradually, metacognition could be enhanced. Certainly, the development of metacognition is also incorporated into various meditational practices in Buddhism.

A Pedagogical Analysis

While features of Buddhist education have been widely discussed,[24] the purpose of this study is to present a reconceptualization of education in a deeper way under the Buddhist perspective.

Aim

The question, "Are all educated men happy?" is an old but recurring myth for mankind to meditate upon. If indeed, education does not lead to a happier life but brings unhappiness instead, then the education we place so high an expectation on can only bring about wrongness. Indeed, knowledge and affliction are classified in Buddhism as the two major impediments to the acquisition of wisdom. Of course, it all depends on how one defines education. From the Buddhist point of view, the fully "educated" man is the one who is totally enlightened. Therefore, in this perspective, being enlightenment is the sole aim of "education."

In his talk, "Buddhism is Neither a Religion nor a Philosophy,"[25] Ou-Yang (1871-1943), the central figure of the Buddhist "renaissance" in China at the turn of the century, distinguished Buddhism from other religions. He pointed out that the major aim of a Buddhist follower is to attain Buddhahood. Lau also pointed out that, "In other religions, it is not possible for their followers to become the godhead. In Buddhism, every sentient being possesses the Buddha nature and anyone who uttered 'homage to the Buddha' will definitely attain Buddhahood."[26]

Candidature

The next question would then be, "Who is capable of being educated?" Buddhists (mahayana, in particular) hold that every sentient being possesses the Buddha nature. This cannot be expressed more clearly than the following exposition of H.E. Tulku Urgyen Rinpoche:

> The ground is the Buddha nature, sugatagarbha, the dharmakaya of all the Buddhas that is present in all sentient beings. It is compared to pure, undefiled gold endowed with supreme qualities and free from any defects. How is the Buddha nature present in everyone? The example given is that of oil in a mustard seed. When pressed, a mustard seed always yields oil. In the same way, in all sentient beings there is the essence of Buddhahood, the Buddha nature. No one lacks it. All the budddhas and bodhisattvas have Buddha nature, as well as all sentient

> beings down to the tiniest insect, without any difference whatsoever in size or quality.[27]

It was also stated in *Maha-parinirvanam Sutra* (Chapter 10) that "All sentient beings will eventually become self-liberated and all three yanas have the same Buddha nature...just as the price of gold is immeasurable after it is cleared of the dirt and refined. Therefore, all sentient beings have, without exception, the same Buddha nature."

Besides this, Chan Buddhists hold that the first words uttered by Lord Buddha when he get enlightened were:

> Strange, every sentient beings possesses the merits of the Tathagata, but because of inflictions and attachments, they cannot reach realization.[28]

Brahmajala Sutra also says that, "All sentient beings possess the Buddha nature" (Part II) in relation to the instance by which Lord Buddha was enlightened. Furthermore, Park distinguishes between the "doctrinal faith" and the "patriarchal faith" in relation to the beliefs "I can become Buddha" and "I am Buddha" respectively. Park also mentioned that these two kinds of faith lead to the gradual and sudden approaches respectively.[29]

Motive

Why should I become a Buddha? I don't wish to be worshipped as a statue in the temple. Why should I be educated? Why should I undergo rigorous training? These are the questions in the heart of those of our students who are "compelled" to attend school by the decree of universal education.

Buddhism skillfully tackles the questions in the reverse manner by stating the fault of not being "educated." The teachings of Buddha begin by pointing out the faults of samsara (non-realized existence) which is precisely the theme of the four noble truths. When one knows that the nature of samsara is suffering, one is motivated to seek the path to enlightenment, that is, discarding this shore and longing for another shore.

The four thoughts which reverse the mind in the Longchen Nyingtig tradition have precisely the same purpose:

> After having begun by giving homage to the lama, first we think about the difficulty of gaining this precious, free, and well-favoured human form, because this form is the basis of the spiritual path of liberation. Then we reflect on impermanence and death; everything that exists is subject to change and death. Then, even though one dies one is not free, one goes on circling in samsara from birth to rebirth and that is why the nature of samsara is suffering; we contemplate on that. Then we reflect that whatever one does, whether good or bad actions, the pattern of karma is inescapable. These are called Lo Dok Nam Zhi: the four thoughts which reverse the mind. Their purpose is to make the mind

turn away from samsara and turn towards the practice.[30]

Duration

There has been heated debate in the educational circles on the issue of "nature and nurture." This issue could be caused by a limited view on life and lifespan. If we regard the termination of this life as the end-point in education, then naturally, not much could be changed (or "educated") in such a short period, especially if time is measured in relation to the three immeasurable aeons which from the moment of cultivation is the time needed for fully "educated" or enlightenment.

This does not mean that one has to go through the whole process from the start in every new lifespan. It is said in *A Precious Treasury of Elegant Sayings*[31] of Sakya Pandit that:

> Acquire knowledge though you may die next year.
> You may not become wise in this life,
> But if you take it with you in your future birth,
> It will become a precious thing.

It is likely that the "precious thing" refers not only to factual knowledge. The word "wise" indicates that it may also refer to the level of awareness. Thus, if one goes through all the spiritual practices in this lifetime and still does not attain total enlightenment at the end of it, one's awareness will be upgraded and merits are accumulated for continuing "education" in the next lifetime.

Curriculum

There is no rigid curriculum for Buddhist "education" although there are general guidelines such as the Three Courses of Study (vows, meditation, and wisdom), the Eight Right Paths, and the various levels of learning like the nine vehicles of Samatabhadra. Followers of Buddhism will progress along various stages (like the five paths) in the course of their education.

There are numerous ways to enlightenment in both the gradual and the sudden approaches to Buddhism. Indeed, the Buddhist curriculum is an individualized one. Each way is specifically devised for the caliber and temperament of the student. It is often situational and can even be spontaneously "designed."

Buddhist scriptures[32] explain that from the single syllable AH uttered by Lord Buddha 84,000 ways have been derived by sentient beings according to their own caliber and temperament. In other words, a "curriculum," if there is such a thing, is not differentiated in the sense that profound meanings are hidden from those of a low caliber but each

person will derive from it according to his or her need just as there are different antidotes for different illnesses.

Teaching

There is no set curriculum in Buddhist teaching and neither is there a "Buddhist way of teaching." The Buddhist master would make use of any means that could enhance the understanding of the disciples. Language and words are means to this end and they are well aware of the limitations of both. The master will give every opportunity to allow his disciple to grasp the nowness before awareness is transformed into ideas and then, later, into words. Before this process begins, it is essential to arouse a state of perplexity and mindfulness in the disciples through engaging them in conflicting dialogues. Details of the principles and methods of conflicting dialogue given by the Sixth Patriarch Hui-Nang have already been discussed.

An indispensable part in Buddhist teaching is the meditational practices. These are not the theme of the present paper, but the six categories of common Buddhist practices as set out in *Buddhism and Meditation*[33] are listed here for reference. They are: (1) concentration, (2) contemplation, (3) inhalation and exhalation, (4) chanting, (5) physical exercises, and (6) mind meditation

Concluding Remarks

In the mid-1980s, the revelation of the "success" of the Confucian Cultural Heritage education shook the world. The cover story, "The New Whiz Kids," which appeared in *Time*[34] may have been the first to bring this phenomenon to the notice of the public, sociologists, and educationalists. However, it may be noteworthy that, despite the academic success of Asian students disclosed in the article, a distinction between the Confucian and the Buddhist were drawn. The relatively less successful performance of those coming from Laos and Cambodia was attributed to their gentler Buddhist approach to life.

Thereafter, the learners and learning environments in the Confucian Heritage Culture were extensively studied and the factor contributing to such outstanding success seems to be their orientation towards achievement, the origin of which could be traced to the de-emphasis of non-mundane pursuit so that they can concentrate their efforts on the more immediate goals of this life.[35] In this way, the lives of individuals are "extended" through descendants and heritage.

Thus, in the Confucian tradition, an individual is valued not as an

individual but for his or her role in a vast network of kinship. It is utterly important that s/he plays precisely the role s/he is born into. One of the major functions of education is to train youngsters to act and behave according to the particular role they will take up in society in accordance with their family background and socio-economic status. In other words, education serves to help the young generation to fit into the society.

This situation, however, has to be re-assessed when the examination system is taken into account because examinations could have an effect on social mobility. An individual, whatever his or her family background, can educate himself or herself, pass different levels of examinations, and theoretically climb up the social ladder. Thus, under these new rules of the game, education, in conjunction with the examination system, has a new function; it enables an individual to strive for the highest role attainable by that individual. It is understandable, therefore, that the Confucian Heritage Culture, albeit an adapted one, would be strongly motivated towards high academic achievement when the achievement is measured against conventional tests and examinations.

With the widening of the apex of the educational pyramid and job opportunities in the society, the goal and function of school education needs to be re-assessed. Students always find school education irrelevant if they look at it solely as a means to help them in climbing up of the social ladder. Under this new vision, the Buddhist philosophy of nurturing the potential of every single individual may be a strong point in comparison to the Confucian approach. It is hoped that this paper might provide food for thought towards this end. There is no intention of suggesting that the Confucian way should be replaced by the Buddhist way, but it is believed that the Buddhist way of self-development of awareness could shed light and enrich the Confucian philosophy, bringing it to even greater heights of achievement.

Notes

1. Taken from a speech delivered by H.H. Dudjom Rinpoche, Jigdral Yeshe Dorje (1904-87), the supreme head of the Nyingmapa school of Tibetan Buddhism, Hong Kong, 3 November 1981. Similar citation was found in Rong-Xi (1979), The Evaluation of Nyingmapa in Tibet and Chan Buddhism in China (in Chinese), in M.T. Zhang (ed.), *The Studies of Relationships between Chinese and Tibetan Buddhism*, 37-44. Taipei: Mahayana Culture Publications: "The Buddha taught 8,400 paths in order to tame the 8,400 different afflictions of sentient beings, just like the emanation of the Medicine King, he uses 8,400 herbs in order to cure 8400 different illnesses."
2. Detailed accounts of this incident may be found in *The History of Buddhism in India and Tibet* of Buston (English translation: Obermiller, 1932) and the

book chapters of Gomez, L.O., Indian Materials on the Doctrine of Sudden Enlightenment and Guenther, H.V. (1983). Meditation Trends in Early Tibet, in L. Lancaster & W. Lai (1983), *Early Ch'an in China and Tibet*, 393-434, Berkeley, CA: University of California Press.

3. Urgyen Rinpoche, Tulku (1991). (English translation: Erik Pema Kunsang). The Four Dharmas of Gampopa, in *Repeating the Words of the Buddha*, 13-32. Hong Kong: Rangjung Yeshe Publications.
4. See, e.g., Chapter 1 of *Upasaka Sila Sutra* and Chapter 4 of *Mahapajna-paramita-Sastra*.
5. Thondup, Ven. Tulku (1982). *The Dzogchen Innermost Essence Preliminary Practice*. Dharamsala, India: Library of Tibetan Works and Archives; Berzin, A. (1978). (English translation). Longchen Rabjampa. *The Four-themed Precious Garland*. Dharamsala, H.P., India: The Library of Tibetan Works and Archives.
6. Cai, R.T. (1986). *The Enlightening Methods of Chan Masters* (in Chinese). Taipei: Wen Shu Publications.
7. Nan, H.J. (1955). *Measuring a Tiny Part of the Chan Ocean* (in Chinese). (Third edition, 1978, Taipei: Lao Gu Publications).
8. Huang-Bo (Tang dynasty) told the disciples: "Do you know...that there is no Chan master in the Tang empire?" Then a monk asked, "There are so many abbots preaching, why do you utter such words?" The master said, "I didn't say that there is no Chan, I only said that there is no master." *Records of Green Cliff*, 1125.
9. Kudzu vine is often used by Chan Buddhism to symbolize words, which, like Kudzu vine, mingle up among themselves, and can never explain the idea behind clearly,.
10. *The Analects of Confucius*, 17:19
11. Zhang, X.B. (1979). Story of the water fairy (in Chinese), *China Man Monthly*, 1, 84-85.
12. Chapter 7, *The Platform Sutra of the Sixth Patriarch*
13. Tharchin, Geshe Lobsang (1979). *The Logic and Debate Tradition of India, Tibet, and Mongolia*. New Jersey: Mahayana Sutra and Tantra Press.
14. Narag Dong Trug transmitted by H.H. Dudjom Rinpoche. Chinese translation: Y.C. Lau (1960). *The Oral Instruction of the Great Magic Net Tantra*. (p. 329).
15. Cronbach, I.F. (1955). The Meaning of Problems, in J.M. Seidman (ed). *Readings in Educational Psychology*, 193-201. Boston, MA: Houghton Mifflin.
16. The question could have multiple meanings, for instance, "if you can speak out what I am thinking just now," or more profoundly, "if you can speak out the 'way.'"
17. Kapleau, P. (1980). *The Three Pillars of Zen, Teachings, Practice, Enlightenment*. New York: Archor Books. See also Park, S.B. (1983). *Buddhist Faith and Sudden Enlightenment*. Albany, NY: State University of New York Press.
18. Jowett, B. (1949) (English Translation). *Plato: Meno*. Indianapolis, IN: Liberal Arts Press, (pp. 37-45).
19. Nan, *Measuring a Tiny Part of the Chan Ocean*.
20. Cai, *The Enlightening Methods of Chan Masters*.

21. Suzuki, D.T. (1956). *Zen Buddhism*. New York: Doubleday Anchor. See also Lau, K.K. (1995). The Revelations from Chan Buddhism to Teachers (in Chinese), in P.K. Siu & P.T.K. Tam (Ed.s) *Quality in Education: Insights from different perspectives*. Hong Kong: Hong Kong Educational Research Association.
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25. Ou-Yang J.W. (reprint) (1972). *Buddhism is Neither a Religion nor a Philosophy* (in Chinese). Hong Kong: Hong Kong Buddhist Scripture Circulation Center.
26. Lau, Y.C., Sonam Chokyi Gyaltsan (1914-1997), chief disciple and Chinese lineage holder of H.H. Dudjom Rinpoche. See Lau, Y.C. (1980). The Comparison of Buddhism with Other Religions (in Chinese), *Vajrayana Quarterly, 2*, 4-5; see also Chang, C.C. Garma (reprint) (1966). *What is Buddhism?* (in Chinese).
27. Chapter 1 of *Upasaka Sila Sutra*, p. 16.
28. Nan, H.J. (1966). Buddhism, in N.F. Yan. *The Science in the 20th Century: Religion*. Taipei: Chung Ching Book Store. p. 174; see also Lau, Y.C. (1980). The Comparison of Buddhism with Other Religions (in Chinese), *Vajrayana Quarterly, 2*, 4-5; and Yin-shun, Abbot(1988). *The Story of Buddha* (new edition) (in Chinese). Taipei: Buddhist Qi-Ji Cultural Service Centre and Pu-Men Library. Other traditions may have different versions, see, for example, Thomas, E.J. (1949). *The Life of Buddha as Legend and History*. London, UK: Routledge and Kegan Paul.
29. Park, S.B. (1983). *Buddhist Faith and Sudden Enlightenment*. Albany, NY: State University of New York Press.
30. Dzogchen View of Ngondro in Sogyal Rinpoche (1990). *Dzogchen and Padmasambhava*. Berkeley, CA: Rigpa Fellowship in California (p. 81). See

also Urgyen Rinpoche, Tulku (1991) (English translation: Erik Pema Kunsang). The Four Dharmas of Gampopa. In *Repeating the Words of the Buddha*, 13-32. Hong Kong: Rangjung Yeshe Publications.

31. Dharma Publishing (1977) (English translation). *A Precious Treasury of Elegant Sayings* (Legs-bshad rin-po-ch'e gter of Sakya Pandit). Berkeley, CA: Dharma Publishing.
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The Implications of Confucianism for Education Today

Frederick K.S. Leung
The University of Hong Kong

1. Introduction

As we approach the new millennium, there is growing concern on whether the education we are offering our younger generation is adequately preparing them to face the new era. There are good reasons for educators to be concerned, since the present millennium is ending with every sign of failure in our education. In seeking breakthrough and possible solution for the future, people begin to turn to old cultural values to see whether they would throw light on some of the problems we are facing.

Confucianism is one of the major cultures in the world. In addition to the one fifth of the world's population in China under its influence, East Asian countries such as Japan, Korea, and Singapore, and the "overseas" Chinese communities in North America, Western Europe, and in nearly all parts of the world are broadly under the influence of the Confucian culture. The economic success of some of these countries in the past two to three decades has drawn much of people's attention to this old culture (see for example Kahn, 1979). In the realm of education, the high achievements of East Asian students in international comparative studies have also attracted much interest from educators (for example Stevenson, 1987; Stigler, 1992). These high achievements are in contrast not only to those in "western" countries in North America and Europe, but also to those in other Asian countries such as India, Iran, and Thailand that do not share the Confucian culture. For example, in the

Third International Mathematics and Science Study (TIMSS), the four systems that top the list in mathematics achievement in middle and primary school years are Singapore, Korea, Japan, and Hong Kong (Beaton *et al*, 1996; Mullis *et al*, 1997). These four are the only countries or systems that can be classified as falling under the influence of the Confucian culture out of the more than 40 countries or systems that participated in the study.

The influence of culture on education is always a difficult and controversial topic. In this paper, what is attempted is a brief discussion on some characteristics of the Confucian culture and their implications for education. For convenience, these Confucian-influenced countries or communities are abbreviated as CHC (Confucian-heritage cultures) in this paper, following the practice of Biggs (1996).

2. Confucianism

2.1 A Super Stable Structure

Despite the diverse social and political settings in the CHC countries, it seems that the cultural values they share are relatively stable. This is evident from the results of large scale multicultural studies by Hofstede (1983) and the Chinese Culture Connection (1987). One possible explanation of this stability lies in the stress of the Confucian culture on the relationship between family (and clan) members and its reliance on the family to perpetuate its values, so that even when the political system changes, these traditional values are still preserved in the families (and clans). For the overseas Chinese, for example, it is a common phenomenon that they tend to stay close to each other, forming "China towns" with the family units staying intact and upholding a strong relationship among their members. In this way their traditional cultural values are preserved for generations. It is this relatively stable and consistent character of the Confucian culture that Sun (1983:10) describes as a "super-stable structure."

2.2 Social Orientation

Compared with Western cultures which stress independence and individualism (Taylor, 1987:235), the Confucian philosophy emphasizes integration and harmony. Yang (1981:161) used the term "social orientation" (as opposed to individual orientation) to label this characteristic of the culture, and described it as:

> ...a tendency for a person to act in accordance with external expectations or social norms, rather than with internal wishes or personal

> integrity, so that he would be able to protect his social self and function as an integral part of the social network.

This is consistent with the observation by Sun (1983:11), who gave the Chinese definition of man in the following manner:

> "Man" can only be defined in terms of his social relations—he is the sum total of his social roles.

Related to this social orientation are characteristics such as compliance, obedience, respect for superiors and filial piety. The relationships between these characteristics and education are discussed below.

2.2.1 Compliance and Conformity

Compliance can be defined as "a tendency to yield to others" (the Collins Dictionary[1]). People under CHC are known to have a tendency of complying with rules or orders more than Westerners, and this gives rise to a strong tendency for uniformity (Sun 1983) and conformity (Bond & Hwang, 1986).

In the area of education, this uniformity or conformity results in a greater homogeneity of student achievement. For example, in a study known as the Mathematical Understanding of Taiwan Students Project (MUT), which is a replication study of the Concepts in Science and Mathematics Study (CSMS) in the United Kingdom, Lin (1988) compared the Taiwanese data with the findings of CSMS and found that Taiwanese students were much less susceptible to the so-called "child-method" which was so prevalent among British subjects (see Booth, 1981). One piece of evidence that Lin used was the narrower facility spread in the Taiwanese data. Similar results were obtained by the present author in a replication study (for Algebra only) done in Hong Kong in 1988 (Leung, 1989:128).

This conformity may act as a hindrance to the high flyers in CHC countries. On the other hand, it minimizes the number of very low achievers, and guarantees that most of the CHC students attain a certain minimum standard of performance.

2.2.2 Obedience, Respect for Superiors and Filial Piety

Liu (1986:78) described this aspect of the CHC or Chinese character as a behavioral rule that Chinese are taught to obey from childhood:

> If your superiors are present, or indirectly involved, in any situation, then you are to respect and obey them.

Liu drew on the "word study" from school textbooks, newspaper and magazines by Liu, Chuang, and Wang (1975) as evidence to support his

proposed behavioral rule. If Liu's proposal is valid, then it perhaps helps to explain the relatively good discipline of students observed in CHC classrooms (Wares & Becker, 1983; Leestma, Bennett & others, 1987).

On the negative side, Liu and Hsu (1974) used this very characteristic to explain the poor performance of Taiwanese university students in a Chinese version of the Torrance test (Torrance 1966). The Taiwanese were found to be more rigid in thought and less original. In another study by Douglas and Wong (1977), Hong Kong pupils, especially female, were found to perform worse than their counter-parts in America on three Piagetian formal-operations tasks (Combination of Colours, Invisible Magnet, and Projection of Shadows). The researchers explained these results by saying that the Hong Kong culture did not encourage an "active, searching mode of behaviour" (Douglas & Wong, 1977:692).

2.3 Emphasis on Education and High Expectations on Student Achievement

CHC countries are known to place high emphasis on education. In ancient China, people were divided into social classes, and scholars were classified as being in the upper-most class. Lee (1996) pointed out that this emphasis on education "rests upon the Confucian presumption that everyone is educable" (p.28). Confucius acknowledged there are individual differences in intelligence, but he believed that "differences in intelligence...do not inhibit one's educability" (p.29). Confucians do not only believe that everyone is educable, they also believe that everyone is perfectible. They believe that "sagehood is a state that any man can achieve by cumulative effort" (Chai, 1965, quoted in Lee, 1996, p.30). It is this positive view on the learning that motivates the CHC learners to exercise their effort and will power in their study.

As a result of this emphasis on education, CHC parents and teachers are known to attach great importance to the education and achievement of their children and students (see for example Sollenberger, 1968). The parents' expectations are shown in their child-rearing attitudes and practices (Ho & Kang, 1984), and the high expectations of students are manifested in the more demanding mathematics textbooks in these countries (Stevenson, 1985; Stigler & Perry, 1988b; Wares & Becker, 1983). This contrasts sharply with the attitudes in the West (e.g., the United States, see Stevenson, 1987).

Not only is there a high expectation in the CHC countries for students to achieve, but there is also an acceptance of a common standard of achievement. This is related to the conformity culture mentioned earlier. This conformity or unity is manifested in and perpetuated by a single curriculum and a uniform state examination for all (see discussion below).

2.4 The Belief in Effort

There is a common belief in CHC countries that one can achieve if one tries hard enough. The Chinese proverb "diligence compensates for stupidity" is most illustrative of this belief. This is in contrast to the Western culture where student ability is considered relatively more important for student achievement.

This belief in effort is evident from CHC parents' attribution of academic success and failure. Stevenson, Lee, and Stigler (1986), for example, found that "U.S. mothers are significantly more likely than Japanese mothers to believe that innate ability (as opposed to effort) underlies children's success in mathematics." Hess, Chang and McDevitt (1987), in a study comparing the attitudes of mothers and children from Chinese, Chinese-American, and Caucasian-American families, obtained similar results. They found that the American mothers were more likely to attribute their children's failure to the lack of ability, while Chinese mothers usually attributed the failure to lack of effort and the success to the teaching in the schools. In the same study, Chinese mothers were also found to use punishment and threaten punishment more often than the American mothers, who provided "rewards without setting higher standards" (Hess, Chang, & McDevitt, 1987:185) more often.

In another study, Stevenson (1987) commented that an Asian attitude was that "differences in innate ability are de-emphasized, and the potential for change throughout life is believed to lie within the individual. As a result, teachers and parents believe that any child is capable of learning...that any student can be good at mathematics if he or she works hard enough" (Stevenson, 1987:8). This is consistent with the results of a questionnaire administered in Beijing, Hong Kong, and London by the present author, which show that teachers in Beijing and Hong Kong thought that the effort paid by students, rather than their ability, was a more important factor in affecting students' success and failure, while London teachers thought the reverse (Leung, 1992). In the terminology of the Attribution theorists, CHC parents are more likely to attribute their children's success and failure to internal and controllable factors. These attitudes are communicated to their children through feedback/reactions that in turn cause their children to put more effort into their study.

High expectation from parents and teachers may exert undue pressure on children. On the positive side, it may constitute motivation to strive for success and excellence. Indeed students from CHC countries are often perceived as being more motivated in their study compared to their counterparts elsewhere.

2.5 The Attitude towards Study and Assessment

2.5.1 Attitude towards Study

The traditional CHC attitude towards studying and learning is that it is a hardship. One should pay the price of diligence and perseverance in order to succeed, and one is not supposed to "enjoy" the studying (Garvey & Jackson, 1975). Every Chinese is familiar with the many ancient Chinese folk stories about famous figures having had a hard time studying and eventually becoming successful (see for example Huang, 1969). In the report by Stevenson (1987) quoted above, this point was well recognized. Stevenson commented that "Asian parents teach their children early that the route to success lies in hard work" (see also Hess, Chang, & McDevitt, 1987). This attitude towards study is also related to the old Confucian tradition of examinations.

2.5.2 Assessment and Examinations

China is the first country in the world where a national examination system was introduced, and examinations have always provided people with a route for upward social mobility. As early as the Sui Dynasty (A.D. 600), a national examination was instituted in the imperial court to select scholars to high offices in the government (Ding & Zhang, 1989). From then on,

> ...the examinations at different dynasties were invariably the means to select appointees to the officialdom.... The examination was later developed into a stratified system where scholars competed in local examinations and became qualified for higher level examinations only when they were selected by the local examinations.... Local successful candidates were awarded lifelong titles of scholars who became local intellectuals with respectable social status. The champions in the examination held at the central imperial court were granted high positions in the government (as high as the prime minister) and often granted marriage to the royal family. (Cheng, 1994)

Not only is examination an old tradition, but there has developed in the CHC culture a great emphasis and trust in competition and examination as a fair method of differentiating between the able and the less able. Examination has acquired the position of something of value in itself and becomes an important incentive for studying. "Education was not meant for learning of practical skills or applications in real lives. It was meant for success in examinations." (Cheng, 1994) As a result, CHC students are used to and excel in (paper and pencil) examinations. This explains partly their success in international comparative studies.

2.6 The Chinese Stress on Memorization and Practice

This "examination culture" has been criticized by educators within and outside CHC countries as promoting rote learning. Indeed in these countries, there is seemingly a great stress on memorization and practice.

Liu (1986:80,82) again described this in terms of two Chinese behavioral rules:

> If the purpose is to acquire the knowledge contained in an article, then the best strategy is to memorize the article.
>
> If the purpose is to acquire any new cognitive skill, then the best strategy is to practice repeatedly.

Liu drew on his own surveys (1984) on the practice of the Taiwanese teachers in requiring their students to memorize every chapter in the Chinese language textbooks as evidence for the "memorization" rule, and a cross-cultural survey by Stevenson and his associates (cited in Cunningham, 1984) on the amount of homework by American, Japanese, and Taiwanese grade-one pupils as evidence for the "practice" rule. This is in agreement with the results of the study by the present author cited above, which found that more teachers in Beijing and Hong Kong (15.8 percent and 17.2 percent respectively) than in London (a mere 4.0 percent) agreed with the statement "Learning mathematics involves mostly memorizing"; and the amount of mathematics homework given to students per week in Beijing, Hong Kong, and London was 218 minutes, 140 minutes and 65 minutes respectively (Leung, 1992).

This stress on memorization and practice may have resulted in better memory power in CHC students. Indeed researchers have reported in the literature on the seemingly superior performance of Chinese subjects on memorization tasks. Hoosain (1979) for example found that the mean digit-span for Hong Kong undergraduates was about two digits higher than that reported for comparable samples in the West, and other findings pointed to the same conclusion (e.g., Huang & Liu, 1978). These results could have been the consequences of the "memorization" behavioral rule proposed by Liu.

The stress on memorization and practice, however, does not necessarily imply rote learning, but is considered as an emphasis on the "two basics"—basic knowledge and basic skill. Nor does it necessarily rule out creativity. As Biggs (1996) pointed out, "the Chinese believe in skill development first, which typically involves repetitive, as opposed to rote learning, after which there is something to be creative with" (p.55).

In the Confucian tradition of learning, there is actually a strong emphasis on reflection. "Seeking knowledge without thinking is labour

lost; thinking without seeking knowledge is perilous" (*Analects*, trans. James Legg, 1930). A true Confucian scholar is one who dedicates himself to studying or seeking knowledge through a lot of practice and memorization. At the same time, he constantly reflects upon what he is practicing and memorizing until he fully grasp the knowledge he is seeking.

2.7 The Moral Character of Education

Last, but certainly not least, an important characteristic of the Confucian thought on education is its moral nature. It is well known that in the Chinese tradition, the aims of education encompass five essential areas: moral, intellectual, physical, social, and aesthetic—moral being the most important of the five. The aim of education is not the pursuit of knowledge for knowledge's sake, but the development of the character or the actualization or perfection of the learner, the attainment of "sagehood."

The Confucian ideal of man is:

> A man should discipline himself first, after that he could regulate his family, then govern the state, and finally lead the world into peace. (*Analects*, trans. James Legg, 1930)

"Discipline" may not be the best translation here. It may be better translated as "attaining personal virtue." The saying stresses that one should have the grand goal of "leading the world into peace," but that goal can only be achieved through stages. One needs to prove his worth in his personal virtues and in his family matters before he can attain the grand goals of "governing the state" and "leading the world into peace."

So the Confucian ideal for knowledge is studying for the sake of developing virtue or self-actualization, and for serving the community and the country. The Chinese are familiar with stories in their history, when in times of national crisis, there was a tradition of intellectuals studying hard for the sake of "saving the country."

It is interesting to note that even during the Cultural Revolution in China during the 1960s and 1970s when there was a national movement to "criticize Confucius," there was at the same time an advocacy of "red and expert," meaning it was not enough to be an expert, one had to have the right virtue which at that time meant having the "correct" political attitude (red). So although the content of the virtue was different from the traditional Chinese values, the insistence that virtue had to go hand-in-hand with (or even supersede) knowledge had not been changed.

3. Discussion

As pointed out above, one of the characteristic features of the

Confucian philosophy is its social orientation. In contrast, there is a much greater stress on the individual in Western philosophy and education, and perhaps rightly so. One's value is not and should not be derived from one's position or role in the social network. As far as education is concerned, in the final analysis, it is the individual who learns, and effective teaching must address the needs and capability of the individual. On the other hand, too much stress on the individual and his/her ability (e.g., in the form of classifying and streaming students into different sets for instruction) may exaggerate and aggravate the individual differences that exist, and may lead to permissiveness for those that are being classified as "less able." Stressing that we are a corporate body will help minimize the differences. Also, human beings are social beings, and learning almost always take place in a social context. An optimal emphasis on one's role in the community provides incentives for students to learn. There is an urgent need in our education today to stress our responsibility towards one another, and the sense of human beings as a corporate body advancing collectively.

Related to this stress on the individual, Western societies have perhaps gone too far in their attempt to care for the individual and in their effort to lighten the yoke of hardship in studying for our students. Yes, students should enjoy their studies, but they should be taught to rediscover the satisfaction which comes after hard work. What many of today's students need is a bit of a push in their study. In this regard, practice, examination, and even memorization, when done properly, may each have a place in education. As pointed out in this paper, the Confucian concept of practice and memorization should not be equated with rote learning. The dichotomy between rote learning and understanding is a false one. Examination is not just a necessary evil, but if conducted properly, provides a good incentive for studying. In sum, there should be a revived stress on paying effort in studying.

Finally, the most significant contribution of Confucianism for education today is perhaps its stress on the value and importance of education, on its positive view that everyone is educable and perfectible, and thus on a high expectation for every student to succeed, and on its stress on the moral character of education. This may be a healthy antidote to the technological bias in our education today.

4. Conclusion

It would be naive to assume that Confucianism provides the answer to all the educational problems we are facing. But from the discussion above, it does seem that this old philosophy, with all its limitations, is still

addressing some of the most acute problems that our education is facing today (the lack of motivation on the part of the students, the lop-sided stress on the technical aspect of education, etc.) and is able to produce students that excel. In this current technological age, there may be a danger in believing that technology will eventually be able to solve any problems we are facing. Perhaps this paper may hint that at least for educational problems, the solution may lie elsewhere.

Note

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The Place of Formal Logic in Critical Thinking Courses

Brian MacPherson
University of Michigan-Dearborn

I. The Relevance of Formal Logic to Assessing Arguments

In addition to teaching informal fallacies, I typically teach elementary formal logic as part of undergraduate critical thinking courses. This approach is not without precedent, and in fact some critical thinking texts such as the one by Jerry Cederbloom and David Paulsen[1] incorporate propositional and syllogistic logic. Further, Patrick Hurley in the preface to his textbook[2] recommends that propositional and syllogistic logic be included as part of a course in critical thinking. Yet, I have sometimes been criticized for including formal logic in my critical thinking courses on the grounds that formal logic is merely concerned with entailment relations between propositions and not with the assessment of arguments. Presumably, one of the purposes of teaching critical thinking is to enable students to evaluate arguments. However, in this paper, I shall argue that since some informal fallacies are reducible to formal ones, formal logic does have a role to play in assessing arguments. Thus, there is a point to teaching some formal logic in undergraduate critical thinking courses.

With respect to arguments that can plausibly be construed as deductive, some of the so-called informal fallacies discussed by Irving Copi, Douglas Walton, Ralph Johnson, J. Anthony Blair, Patrick Hurley and others are reducible to classical formal fallacies in the sense that they can be reinterpreted as such. This is suggested by Copi when he

claims that arguments involving informal fallacies are generally invalid.[3] A deductive argument involving an informal fallacy that is reducible to a classical formal one instances an invalid argument form (an argument form having invalid substitution instances). Granted, being an instance of an invalid argument form does not guarantee invalidity given that invalid argument forms have valid substitution instances. Thus, once a specific argument is shown to be an instance of an invalid form, that argument would still have to be tested relative to the appropriate logical system for invalidity. At the very least, a deductive argument that involves an informal fallacy reducible to a classical formal one is suspect from the point of view of formal logic, and thus warrants testing.

It does not follow from these considerations that there is no such thing as informal logic, if informal logic is conceived of as the enterprise of assessing arguments by appeal to informal fallacies. What does follow is that for deductive arguments, some of informal logic could be replaced by formal logic. If I am right, this would mean that formal logic is not merely concerned with entailment relations between propositions, but that it is also relevant to the assessment of arguments, contrary to the claims of Johnson and Blair.[4] So the assessment and criticism of arguments is not the almost exclusive province of informal logic. Thus, it makes sense to include elementary formal logic as a part of critical thinking courses if one of the purposes of such courses is to give students the tools they need to assess arguments.

In this paper, I shall assume a somewhat standard though not uncontroversial distinction between inductive and deductive arguments: A deductive argument is one for which the arguer intends that if the premises are true, then the conclusion must be true. An inductive argument is one for which the arguer intends that if the premises are true, then the conclusion is probably true. I shall not attempt to provide criteria for how to determine arguers' intentions, although looking at conclusion indicators (if there are any) will provide some clue as to whether an argument is inductive or deductive. Further, I am *not* assuming that all nondeductive arguments are inductive. It is beyond the scope of this paper to consider what other kinds of nondeductive arguments there may be. For simplicity of discussion, I shall hereafter only distinguish between deductive and inductive arguments.

A recent objection to the inductive/deductive distinction in terms of intentions has been raised by Robert Wachbrit. According to Wachbrit, if classifying arguments in terms of intentions is correct, then one and the same argument can be both inductive and deductive depending on which arguer is doing the intending.[5] This objection can be met if

arguments are less crudely individuated. For example, arguments could be regarded not merely as sets of statements but rather as ordered pairs <S, p> consisting of a set S of statements (the argumentative content of <S, p>), and a person p. Whether or not the pair <S, p> is deductive or inductive depends on the intentions of the person p with respect to the set S. With this more fine-grained way of individuating arguments, it is impossible for one and the same argument to be both inductive and deductive at the same time (assuming the intentions of the arguer are unambiguous and consistent). Thus, an argument <S, p> may be deductive whereas another argument <S, p*> may be inductive even though they share the same argumentative content, viz., the set of statements S. A fallacy-based approach to evaluating arguments would apply to the argumentative content set S. If the intentions of the person p are that S is inductive then we would evaluate S in terms of informal fallacies, and if the person p regards S as deductive then S can be evaluated using formal fallacies if appropriate. Finally, to say that an argument has not yet been considered by anyone is to say that a content set S has not yet been paired with a person p.

In defense of my claim that some informal fallacies are reducible to formal ones, I shall consider two examples of informal fallacies that can be reinterpreted as formal fallacies in classical logic. First, I argue that for deductive arguments, both versions of the argument from ignorance are reducible to either the fallacy of denying the antecedent or the fallacy of affirming the consequent. Further, I show that the traditional fallacy of equivocation can be reinterpreted as a formal fallacy for arguments that are deductive. This second example is uncontroversial, because equivocation is regarded as a formal fallacy with respect to syllogistic logics. I leave unscathed such informal fallacies as false cause that apply primarily to what have been traditionally called inductive arguments. I conclude that since some of informal logic is replaceable by formal logic, there is a place for formal logic in the assessment of arguments, so that having formal logical skills is an element of being able to think critically.

Showing that an argument involves a formal fallacy does not amount to showing that it is invalid, although it makes the argument suspect. Once a suspect argument is suitably translated into an appropriate logical system, then its invalidity can be proven—relative to that system. At this point, Gerald Massey would object that no argument can be proved to be invalid whereas valid arguments can be shown to be valid.[6] This is his now well-known "asymmetry" argument. However, I shall argue that Massey's skepticism about proving invalidity is misplaced. While he is right that arguments that are invalid in one logical system may be valid in other logical systems, the same point applies to suppos-

edly valid arguments. An argument valid in classical logic may be invalid in relevance logic, and so there is *no* asymmetry. All that Massey has really established is the truism that the notions of validity and invalidity are relative to logical systems.

II. The Argument from Ignorance as a Formal Fallacy

The argument from ignorance is classified as a fallacy of relevance according to the standard treatment of informal fallacies although Hurley has classified it as a so-called fallacy of weak induction.[7] There are two versions of the argument from ignorance discussed in the literature.[8] First, if it is argued that a proposition P is false since it has not been proven to be true, then such an argument may be fallacious. Or, if it is argued that a proposition P is true since it has not been proven false, then this may also be fallacious. Arguments that are *deductive* can be reinterpreted as the fallacies of denying the antecedent and affirming the consequent respectively, both of which are formal fallacies. I am disagreeing with Hurley's claim that arguments from ignorance are generally inductive. On my account of arguments, whether an argument from ignorance is deductive or inductive depends on the intentions of the arguer.

Consider the first version of the argument from ignorance outlined above. A missing premise that could be charitably imputed to the author of such an argument is the claim that if a proposition P is proven to be true, then it is true. This is a thesis of any plausible epistemic logic. Thus, the first version of the argument from ignorance has the following form:

Premise: P has not been proven to be true.
Missing Premise: If P has been proven to be true, then it is true.
Conclusion: P is false.

This argument form is the formal fallacy of denying the antecedent in classical logic, which is an invalid argument form. It of course does not follow that every instance of this form is invalid, but only that an argument that instances this form is suspect from the point of view of validity. The specific argument would still need to be tested relative to an appropriate logical system.

I am not, of course, falling into the trap of what Massey calls the "enthymematic ploy,"[9] since I am not adding a suppressed premise in order to make an argument into a *valid* one. However, it could be objected that a more charitable imputation of a missing premise to an arguer advancing an argument of this type would be something like "If P has not been proven to be true, then P is false," in which case the conclusion would follow by *modus ponens*. The assumption here is that a rational arguer would not

advance an invalid argument. However, this move *would* involve the enthymematic ploy. Further, the contrapositive of this alternative missing premise, viz., "If P is true, then P has been proven to be true," is implausible (at least if one is not a constructivist), and so it would not be charitable after all to impute such a missing premise to an arguer.

Next, consider the second version of the argument from ignorance discussed above, viz., that a proposition P is true on the grounds that it has not been proven to be false. A missing premise that could charitably be imputed to the arguer is the claim that a proposition P is true only if it has not been proven to be false. Consequently, this second version of the argument from ignorance has the following form:

Premise: P has not been proven to be false.
Missing Premise: P is true only if it has not been proven to be false.
Conclusion: P is true.

The argument form outlined above is the formal fallacy of affirming the consequent, which is an invalid argument form.

Likewise with this second version of the argument from ignorance, it would not be charitable to impute to the arguer a conditional such as "If P has not been proven to be false, then P is true" such that the conclusion would follow by modus ponens. The contrapositive of this claim, viz., "P is false only if P has been proven to be false," is highly implausible, and so it would not be charitable to impute such a claim to an arguer. Thus, if I am correct, both versions of the argument from ignorance discussed in the literature are reducible to formal fallacies. Consequently, any deductive argument from ignorance could be assessed by determining whether it can be represented as either the fallacy of affirming the consequent or the fallacy of denying the antecedent. Thus, the machinery of formal logic would be relevant to evaluating arguments of this type.

It could be objected that not all instances of the argument from ignorance are fallacious. For example, if astronomers are looking for an extra planet in the solar system using state of the art technology, and one has not been found, it is reasonable to be skeptical about the existence of such a planet. Regarded as inductive, this argument is strong. If experts have not found an additional planet, then it is likely that there is not one. Nonetheless, my point stands because I am not concerned with inductive arguments. In the above example, if the arguer intends the argument to be such that the conclusion follows *necessarily* from the premises, then its translation is most likely invalid in an appropriate logical system, and could be shown to be such using the tools of formal logic. From the fact that astronomers have not yet discovered an additional planet, it does not follow with certainty that there is no such planet.

III. Equivocation as a Formal Fallacy

In syllogistic logic, equivocation is a fallacy of standard-form categorical syllogisms. Equivocation occurs when the middle term of a categorical syllogism has two different senses so that the syllogism contains four terms instead of three. Any straightforward categorical syllogism that commits equivocation can be shown to be invalid by Venn diagrams or by simply inspecting its logical structure. So with respect to categorical syllogisms, equivocation is a formal fallacy.

Admittedly, in the case of categorical syllogisms, we need to consult the content of the argument and its context to determine whether or not it commits equivocation. It could thus be objected that equivocation is an *informal* fallacy given that we need to look at the *content* of the argument rather than merely its logical form. This objection is based on Hurley's claim that informal fallacies can be detected only by examining the content of an argument, whereas formal fallacies can be detected merely by examining the logical form of an argument.[10] However, this attempted distinction between formal and informal fallacies is mistaken. In order to effect a translation of any deductive argument into an appropriate system of logic, it is first necessary to examine the argument's content, which includes determining whether or not a given term is used in more than one sense in the argument. If Hurley's characterization of informal fallacies in terms of content were correct, then *every* fallacy would be informal. This does not seem right.

Deductive arguments that are not categorical syllogisms but that involve equivocation can be reinterpreted as involving a formal fallacy. As with categorical syllogisms, because of the equivocal term, the argument may mimic a valid argument form in classical logic, although in fact it is an instance of an invalid argument form. I shall illustrate this with the following example from Johnson and Blair[11]:

> **Premise:** The Progressive Conservatives endorse the concept of two nations in Canada.
> **Premise:** There can be two nations only if there are two political states.
> **Conclusion:** The Progressive Conservatives' policy of accepting the two nations idea is a threat to Canadian unity.

Johnson and Blair cite this argument as a possible example of the more generic fallacy of ambiguity, where the suspect term is "nation." A case could be made that "nation" in the first premise refers to a distinct culture whereas in the second premise "nation" refers to a distinct political state. We can charitably add the following missing premise:

> If the Progressive Conservatives endorse two distinct political states for Canada, then this is a threat to Canadian unity.

If "nation" is being used in the senses discussed above, then if the argument is intended as deductive, its translation in the propositional calculus is the following:

E
$B \supset C$
$\underline{C \supset D}$
D

The translation schema used for the ordinary language argument is as follows: I have represented the first premise by the letter E (with one sense of the term "nation") and the second premise by the conditional $B \supset C$ (with a second sense of the term "nation"), where the second premise can be read as saying that if the PCs endorse two nations, then they thereby endorse two distinct political states. The missing premise cited above is represented as the conditional $C \supset D$, and finally the conclusion is represented as D. Since "nation" is being used in two senses, then the first premise is not the antecedent of the conditional second premise. It is easy to verify that this translation is invalid in the propositional calculus. This sort of case is analogous to syllogistic logic where a two-premise argument that contains a term that is used in two senses is invalid.

The above translation in the propositional calculus mimics the following argument, which *is* valid in the calculus:

B
$B \supset C$
$\underline{C \supset D}$
D

In this section, I have tried to show that the fallacy of equivocation is actually a formal fallacy. I shall conclude by re-examining the role of formal logic in the assessment of arguments, although first, Massey's asymmetry argument must be addressed.

IV. The Alleged Asymmetry between Valid and Invalid Arguments

According to Gerald Massey, there are no good arguments that bad arguments are bad. If an argument (or more accurately, its translation) can be shown to be invalid in some logical system L, it does not follow that its translation in some other logical system L* will be invalid. Even if we were to show that this argument is invalid in all known logical systems,

it would not follow that the argument is invalid simpliciter since its translation could turn out to be invalid relative to some undiscovered logical system. On the other hand, if an argument is valid, it is enough to show that its translation is valid relative to some system or other. Thus, there is an *asymmetry* between showing validity and showing invalidity:

> To show that an argument is valid, it suffices to paraphrase it into a demonstrably valid argument form of some (extant) logical system; to show that an argument is invalid it is necessary to show that it cannot be paraphrased into a valid argument form of any logical system, actual or possible.[12]

Massey offers no reason for accepting the claim that it suffices to show that an argument is valid simply by showing its translation to be valid in some logical system or other. In fact, what he says here is simply not true. For example, an instance of the disjunctive syllogism is a valid argument in the propositional calculus, but it may turn out to be invalid relative to various systems of relevance logic. It surely does not follow that this argument is valid simpliciter because it is valid in classical propositional logic. Thus, if there is no proof of the invalidity of arguments, there is no proof of the validity of arguments. There is no asymmetry between establishing validity and establishing invalidity of arguments.

The lesson to be drawn from Massey's skepticism is not that there is no proof of invalidity, or for that matter of validity. Rather, an argument is itself neither valid nor invalid simpliciter. Only its *translation* can be valid or invalid relative to some logical system or other. This is not an indictment of the efficacy of formal logic in evaluating arguments. It merely cites a limitation with respect to the use of formal logic. In a sense, any given argument is on a par with every other, because presumably every argument will be valid in some logical systems and invalid in others. Thus, it is important to choose an appropriate logical system or set of systems that render the most satisfactory translation of the argument. If this appropriate translation in L is valid in L, then the argument is good from the point of view of formal logic and if the translation is invalid in L, then the argument is bad.

At this point, Massey would counter that the kind of translation we would deem appropriate will depend on our intuitions about the validity or invalidity of the argument. If we think it is valid, then we would translate it into a system of logic adding missing premises as needed that would render it valid, whereas if we think it is invalid, then we would translate it into a system that would render it invalid. However, there is no reason why intuitions about validity or invalidity should determine

which translation is appropriate. Presumably, the criteria of appropriateness would be tied up with translating the argument into a system whose syntax is rich enough to capture the nuances of the ordinary language version of the argument. Even if it is not possible in principle to capture all the nuances of the natural language version, the appropriate logical system is the one that best approximates the ideal translation.

V. Concluding Remarks: Formal Logic and the Assessment of Arguments

McPeck has argued that there is no such thing as a field-independent informal logic by means of which arguments can be assessed.[13] Arguments can be assessed only relative to the discipline in which they are presented, in part because it is necessary to conduct factual investigations to see whether a given argument is fallacious. It is now a platitude that facts are discipline-relative or theory-relative. Blair and Johnson have responded to McPeck's indictment of informal logic by pointing out that informal logicians do not deny that factual investigation is often necessary to determine whether a given argument is fallacious. Further, they argue that since students already come into a formal logic course with a certain amount of background knowledge from various disciplines, it is possible to teach reasoning skills in a general course.[14]

My thesis is much less radical than McPeck's. I am not claiming that there is no such thing as an informal logic of argumentation. I am merely claiming that at least a subset of informal fallacies are reducible to formal fallacies for arguments that are deductive, and that there are a number of cases where such reductions are possible. The short list of informal fallacies which I have discussed that are reducible to formal fallacies is probably not exhaustive.

Even if some of what is done by informal logic could be taken over by formal logic, informal logic is still needed for evaluating inductive arguments. When it comes to such arguments, there will be some overlap between informal logic and inferential statistics. Many inductive generalizations and causal inferences that involve references to correlations are best assessed using probability theory and inferential statistics. But probability theory and inferential statistics are in a sense field-independent, and so it could well be the case that Blair and Johnson are right after all. There may be such a thing as a field-independent informal logic of argumentation, which overlaps with or is even identical with inferential statistics and probability theory, that can be used to assess inductive arguments.

Where I part company with Blair and Johnson is with respect to their claim that the criticism and assessment of arguments is largely, though perhaps not entirely, the province of informal logic given that formal logic is merely concerned with entailment relations between propositions.[15] If I am right in my claim that some informal fallacies are reducible to formal ones, then formal logic could have a much larger role to play in the evaluation of arguments than Blair and Johnson would like to suppose. Further, if a number of deductive arguments can be assessed by the machinery of formal logic, it would seem to follow that there is a field-independent logic of deductive argumentation, since whether an argument stands or falls depends on whether its symbolized form is valid or invalid.

On the view that I have herein developed, logic could be conceived broadly as the discipline or field concerned with the assessment of argumentation. In turn, logic consists of formal logic that can be used to assess certain kinds of deductive arguments, along with inferential statistics and probability theory that can be used to evaluate at least some kinds of indeductive arguments. But then logic in this broad sense would be field-independent, contrary to what McPeck argues. Further, the conception of logic that I am espousing is consistent with Walton's question-answer dialogue conception of informal logic.[16] For example, in the case of deductive arguments, the proof that an argument under consideration is formally invalid is sufficient justification for criticizing someone else's argument.

Notes

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"The Riddle of the New Riddle": Or, Goodmanic Method Applied to Goodman

Rupert Read
University of East Anglia

In an important recent paper, Ian Hacking writes:

> Goodman's riddle has had a curious reception.... [A] number of analytically-minded philosophers have examined the riddle in detail as a minor technical problem, without reflecting on its wider implications.... [Some] find the riddle an embarrassingly small trick of a logician, hardly worthy of a powerful intellect. After all, Goodman himself called it, in self-deprecatory mood, a mere "riddle"! Is it not to be ignored...or defeated by definitions and distinctions, as some logicians propose? No. I do not regret having written, long ago, that the riddle combines "precision of statement, generality of application, and difficulty of solution to a degree greater than any other philosophic problem broached in this century."[1]

I strongly agree with Hacking that there has been all too little attention paid in the philosophical community to the "wider implications" of the new riddle of induction, as explored by Goodman in his later works. The topic I wish to discuss could be construed as of a technical nature, but is considered here primarily with a view to facilitating a clearer view of the overall significance of Goodman's Paradox, and of the project(s) in which, from *Fact, Fiction and Forecast*[2] on, it has played a significant part. I wish to investigate a reading of Goodman on which the "new riddle" and the "theory of projection" which follows it re-cast the Humean project of justifying our inductive practices (or, more broadly, our projective practices).[3] The question is whether the "new riddle" and the "theory of projection," thus viewed, stand to each other as "sceptical problem' to 'sceptical solution."

Before proceeding any further, let us briefly refresh our memories as to the "new riddle of induction" and inductive scepticism, as they feature in (relation to) Goodman's account. The "new riddle" directly challenges naive views of the nature of induction by enumeration (in particular, Nicod's Criterion), by means of demonstrating that some hypotheses whose form is acceptable are nevertheless not confirmable by their instances, on pain of our inductive practices being wrong or irrational. Specifically, if "All emeralds are grue" were confirmable by its instances (where "grue" means "green and observed before 2000 C.E., or otherwise blue"), then the rationality of our thought that emeralds observed after 2000 will be green would be undercut. The meaning of "means" here would be explicated differently by different philosophers; notably, as we shall see, Goodman himself thinks that the downfall of Platonism and of the analytic *vs.* synthetic distinction renders most plausible a nominalistic account of meaning in which terms are identified by their extensions only. The term "sceptical solution" as used above means a response to a sceptical problem (e.g., doubts such as those of a "Cartesian sceptic" concerning the reality of the "external world"; or doubts of an "inductive sceptic," who holds that we have no basis for thinking that our hypotheses will continue to be satisfied) which does not attempt to answer the problem in the terms in which it has been set, but rather "answers" it by explaining why we can in any case reasonably go on with whatever practice was seemingly threatened by the doubts.[4] The only obviously contestable assumption I shall make about "sceptical solutions" is a provisional methodological assumption that, until we have reason for thinking otherwise, we should assume that a sceptical solution *is* an attempted solution to whatever sceptical problem is in question. If it is in *no* sense a solution to that problem, in no sense a reasonable answer to "the sceptic's question," then the term "sceptical solution" can be at best an ironist's way of explaining that the solution to the problem is *simply* to see that there is no chance of arriving at a (real) solution.

Now, it is not infrequent to hear passing mention of Goodman's problem as in some way sceptical, but *published analyses* of it as such are few and far between. Several philosophers have in print throwaway lines to the effect that Goodman is a Humean sceptic, but most of these go on, with everyone else, to treatment of Goodman's riddle as raising merely technical and analytical difficulties. Those few published pieces that address the riddle as sceptical tend to presume that Goodman's scepticism simply *is* what has come down to us as "Hume's skepticism"—"Hume's Problem" (so-called) of Induction. The clearest case of this is Simon Blackburn's account:

> ...We would expect new rubies, mined after 1985, to be red; we would expect new wounds to give red blood....What makes us think we have got hold of a similarity which nature will herself protect, whereas some unfortunate who catches on to a bent rule will get a nasty shock in the dawn of 1986? Goodman himself...saw nothing but linguistic convention to hold onto.... But our preference for our rules and not their bent counterparts is hard to regard as a product of purely conventional arrangements.... If the opinion [that future blood samples will be red] had such an insubstantial ancestry, so disconnected from the way things are, it had better not be trusted. In other words, if Goodman's were the ultimate answer, we would have no defence against total scepticism about whether the world is stable in any of the respects which we rely upon. Butter might be red tomorrow, and blood yellow; either might sing to us or cause golden eggs to come out of thin air.[5]

Some philosophers have held that Hume's philosophy includes skepticism(s) allowing no basis on which to avoid slipping into total scepticism;[6] similarly, Blackburn seems to take Goodman's riddle to involve us *patently* in a similar predicament. But it is too crude a reading to have someone who *never for a moment* countenances inductive scepticism[7] be *blatantly* committed to it, because purportedly only our habits of speech are available to defend against it.

In what follows, I investigate what happens to Goodman's riddle if it is considered self-reflexively, and thus probe into the possibility that there is a scepticism as to projection (and, in a sense, as to meaning) *latent* in Goodman's account. This investigation focuses on the application of Goodman's own methodology to his "theory of projection". In (A), I investigate how this might be done, and consider what response a defender of Goodman might make to the difficulties generated. In (B), I show that such a Goodmanian could not resist the "Goodmanisation" of his own account, and discuss the precedents for and the implications of the application to the "new riddle of induction" and its "solution" (the "theory of projection") of "new riddle" doubts.

(A) Goodman "Goodmanised"?

In order to respond to the puzzling problem formulated in "The new riddle of induction" (Chapter 3 of *Fact...*), Goodman introduced in "Prospects for a Theory of Projection" (the final chapter, Chapter 4, of *Fact...*) a proposal for describing/evaluating what *our* practices, our projective practices, *are*, and thus also for commencing an answer, one which will work for us, to the question, "Which generalizations are confirmed by their instances?" I have suggested above that this proposal may be interpretable as akin to a sceptical solution to the doubts raised

via the "new riddle." This suggestion would receive some support, were it to turn out that the concepts/doctrines of entrenchment and projectibility[8] (logically) *could* not provide an "answer" to—could not stand up against—the very doubts raised by the problem. For Goodman's problem and the "solution" offered would then satisfy (at least so far as Goodman is concerned) what is a plausible sufficient condition for a philosophical problem to count as a sceptical problem. Namely, that it satisfies the criterion of being *unanswerable* on its own terms. For a question or problem to be unanswerable is for it to be "soluble" only in the final sense mentioned in connection with the discussion above (on page 50) of "sceptical solutions"—that is, the sense in which it is a "solution" fit for a sceptic to be convinced that the problem is simply insoluble. Any problem which *cannot* be solved from within premises and resources cotenable with it counts for philosophers as sceptical—or so at least I shall assume henceforth.[9]

The philosophical issues at stake here are considerable. Philosophers —particularly epistemologists—have in Modern times expended a great deal of effort on accounts of how we are or are not justified in believing what we believe about the subject-matters of the sciences, about others' minds, about God, and so on (Somewhat less energy and paper, though still and increasingly a good deal, has been spent on coming to grips with our justification for believing what we believe about the nature of justification).[10] Subtle varieties of Foundationalist theories of justification have evolved, and been read back into the classics of Philosophy's past.[11] These and the more-recently recognized Coherentist models have generally been taken to contend with varieties of Scepticism. Goodman has been thought by many to have been at the vanguard of what has been taken to be a (r)evolution in our understanding of the conceptual nexus around "justification." For his proposed "virtuous circle" between description of practice and practice itself,[12] developed by John Rawls into "reflective equilibrium,"[13] apparently provides an alternative to Foundationalist or other anti-Sceptical justificational strategies. It is supposed to provide a mode of justification not epistemologically *or* logically prior to description, and not open to sceptical challenge, not interested in debate with "the sceptic." The question being raised in the present piece is whether in fact Goodman's *Fact...* fulfills these aspirations, or whether we are forced to understand it rather as a justificatory project along more traditional lines, attempting to find a reasonable basis from which to address questions which are in an important sense sceptical. In short, when we turn to consider Goodman's methodology as (it could be) applied to Goodman's own theoretical description of projection, does it look more like *an attempted answer to*

inductive scepticism than *a setting aside of such a problematic for a post-Sceptical analysis* of "*...new problems* that are not as yet very widely understood?"[14] If so, then we may be led to conclude that at least one way of executing the recent and still contemporary kink in Philosophy's evolution—the Goodmanian shift from Philosophy-as-Foundationalist-Justification to Philosophy-as-Description/-as-Definition/-as-Justification—is not as executable as has quite widely been hoped.

The theory of projection, outlined in Chapter IV of *Fact...*, has been exhaustively detailed technically;[15] we need only be concerned here with its fundamental points. To re-iterate, those are that it is proposed that the extent of the record of past uses of a predicate renders it *entrenched* to a greater or lesser degree; and that such entrenchment is, roughly speaking, criterial for the *projectibility* of the predicate or hypothesis in question. So unentrenched predicates and hypotheses are in general not projectible. Some, such as the so-called "'grue' hypothesis" (i.e., that emeralds will continue to be grue after *t*, or as we would say, that they will turn green), are unprojectible, and this *explains* their not being confirmed by their instances. My suggestion above was that it might turn out that this theory stood as "sceptical solution" to a "sceptical question" or questions embedded in Goodman's "new riddle of induction." That is, if one brackets Goodman's questionable claim to be following Hume precisely through displacing the problem of justification by that of description,[16] then Goodman's riddle, "...and the sceptical challenge it presents to any inductive argument one claims to be valid and acceptable...,"[17] can be read as demanding an answer, on pain of such particular inductive/projective arguments as we apparently make being otherwise unjustified. And the *materiel* of entrenchment and projection can be read as a kind of answer, only a "sceptical" answer, a "sceptical solution" in a Humean sense. That is to say, less a real answer than a rationalization for how we can get on with making the particular projections we make untroubled by the doubts raised. What makes it even a "rationalization?" It enables us to think that we have a basis of sorts (certain habits, practices) on which to proceed, even if we have nothing to say to counter directly the question(s) raised by the scepticism.

Having just sketched out what it could conceivably be for there to be a sceptical problem and "solution" here, I wish to raise a query, a problem, an argument, in the spirit of immanent critique. The question I wish to raise is: *What happens to Goodman's "sceptical solution" (if such it is) if it is in turn "Goodmanised*?" In other words, if the concerns as to why we take "All emeralds are green" rather than "All emeralds are grue" to be confirmed by the observation of emeralds are transferred to the procedures by means of which Goodman explains why indeed it is that we find

the former, and not the latter, acceptable and projectible.

It dawns on us fast that the question may be put in various powerful forms: For instance, *How could one determine whether or not the conception of our projective practices which Goodman employs actually represents adequately our practices—for will these practices not be susceptible to a multiplicity / an infinity of interpretations / descriptions, in just the same way as our ordinary hypotheses and predicates are, according to the new riddle?* To put the question more in terms relating it to the practices of scientists: *Why should we accept Goodman's proposal as to how to describe and evaluate our practices, out of the multitude of possibilities which (actually) exist, when Goodman uses concepts (e.g., "projectibility," "entrenched") so alien to and distant from those used by practicing scientists?*[18] *Is it even clear what it would* mean *to accept his proposal, bearing this in mind, barring much more in the way of "auxiliary hypotheses" to connect the proposal and the practices described than we are actually given?*

A defender of Goodman might answer the first extended question by claiming that the right interpretation of our practices is that which we would accept "in reflective equilibrium." A little-noted feature of such claims is their counter-factual character, which for Goodman would be problematic —this is one point where loyal Goodmanians and Rawlsians are liable to diverge (somewhat) more rapidly than one might expect. But a more basic difficulty will shortly be clearer—briefly, couldn't the same problem as that underlined above arise "in reflective equilibrium?" Couldn't one go on to ask, of any proposed or accepted account of a practice, at whatever level and with however-so-much reflection, what grounds there were for accepting it as a decent account, given the multiplicity...*etc.*?

Let us back up a little. The "new riddle of induction" asks implicitly what our projective practices *are*, for it raises the question of how it is possible to distinguish confirmable from non-confirmable generalizations, (wisely) without presupposing that we are aware of exactly which generalizations are and are not confirmable, prior to inquiry. Thus, in the course of his exposition, Goodman follows what presumably would be the practice of a Goodmanian in the course of any inquiry into the nature of our projective practices—there is (one hopes) a *virtuous* circle between cases as described and generalized over on the one hand and particular instances that we accept or refuse to accept on the other. Goodman's theory of projection claims, in response to Goodman's riddle, to be *describing* our projective practices, where this is not *purely* a description—it is one which "...may be used to describe cases that are not already settled...,"[19] and thus apparently has some kind of normative force.

The substance of the above paragraph lends itself to a re-casting of

the comparison between Goodman and "Hume's Problem" (as traditionally understood): as explained earlier, the idea of the new riddle is supposed to be distinguished from "Hume's" (overtly skeptical) approach, which asks[20] for a foundationalist Justification of our inductive practices, asks which predicates we *should* project. Hume's response to this problem, if it was a response to *this* problem, was to provide what appears to us to be a more obviously "inadequate" skeptical solution—*viz.*, a vague description of our inductive practices. Goodman wishes rather to offer a *precise* description by way of a "solution" to the doubts raised as to the basis for our current practice, as opposed to possible alternate practices (*e.g.*, projecting "grue"). The description is precise by virtue of outlining which types of regularities are woven in with habit-forming practices, and which are not. But any such description may be questioned precisely on the grounds of asking what grounds or reason we have for not questioning the precision of the description, just as the precision of "Hume's" description was questioned by Goodman (Hume being unable to distinguish between forming the habit of typically taking certain things to be grue from that of taking them to be green). The Goodmanian "solution" is arguably sceptical, because "external" to the doubts raised—there is no *reason* offered, on the terms of the doubts, for what is to be done—there is only the description (normatively useful, to some extent yet to be determined). So my contention is that this description—the centrepiece of Goodman's "sceptical solution"—also fails when the principles of his "scepticism" are applied to it. This issue is co-extensive with that of whether Goodman's methods considered self-reflexively can actually succeed in forming a *"virtuous* circle." For clarity's sake, it is salient at this point to set out this *"Goodmanic problem for Goodman"* more directly in terms reminiscent of Goodman's own.

Think of the predicate "green," which Goodman wishes to say is projectible and well entrenched, as it features in our practice of the description of the colours of objects, and in particular of our projective practice of hypothesis-formation with regard to the color of (all) emeralds. Now let me remind you of another predicate less familiar than "green." It is the predicate "entrenched," as it features in our (or, at least, in Goodman's) practice of description of our past projections. The concepts of "entrenchment" and "projectibility" are little used in practice, and are therefore at least not evidently well "entrenched"—one's initial inclination is to suspect that these terms are not well entrenched at all (and thus their projectibility must be, *prima facie*, doubtful).[21] For instance, scientists do not describe their choice of predicates in describing experiments or in framing laws *etc.* by using these terms, these concepts. A Goodmanian would thus (presumably) be committed to

saying something like, "Ah yes, but it so happens that the theory of projection I have begun work on does fit these projective practices better than any alternative—and remember, I am interested in the extensions of predicates,[22] including "projected" and "entrenched," not in their intensions or surface forms. This is an advantage of my account over the accounts of mentalists and Idealists, which may rely on the surface-forms of how scientists actually think and talk about these things. This answers your point, and partially explains how the terms of the theory of projection are already entrenched, in already-existing accounts of scientific practice, by inherited entrenchment from related predicates with overlapping extensions." The guts of such a response, which is in line with the views and doctrines of the last chapter of *Fact...*, is that more or less co-extensive predicates to those introduced by Goodman are already employed.

(A difficulty associated with the above "Goodmanian" comments, which might be *pivotal* in contexts other than that of the present paper, is how it is possible on Goodman's account to make sense of radical innovation. Others have explored and are exploring this elsewhere, and we shall turn to it [to see how it may be relevant to our concerns] momentarily.)

Notice that the problem earmarked prior to the remarks of the "Goodmanian," above (the problem of the adequacy of the description of projective practice offered by Goodman), arises directly for Goodman *just because extensions are not inspectable*, such that it is epistemically impossible ever to make judgments of even relative entrenchment with certitude—or even with high probability of accuracy? One worries just how one could determine that scientists were after all engaged in projection *according to the criteria of projectibility as these are described by Goodman*. (So it's an open question whether Goodman could invoke this "advantage" of his account—it may be rather that the problem here is *particularly* pertinent to anyone committed to some variety of "extensionalism."[23] Extensionalists may find it hard to determine whether green is being projected, in the case of a mineralogist, for instance.)

Perhaps scientists operate according to entirely different canons. One possibility, which would find favour with some philosophers, would be: strict and substantive canons of (apparent) correspondence to truth at all times, such that the record of past projections is of no interest whatsoever to Science. I shall not deal here with this proposal, considering it to be vitiated by the uncashability of the metaphor of "Correspondence," and by the epistemic inaccessibility of truths about such "Correspondence," which results in very much the same difficulties as face Goodman's account. We shall return to this latter point shortly.

Another possibility brings us directly to the question of how to

reconcile the emphasis on past use (which is seemingly crucial to entrenchment) with the possibility of present innovation. It is suggested by Hacking's reading of Kuhn's updated emphasis on scientific revolution as change in taxonomies of kind-terms:

> Goodman proposed that we characterize projectability [sic.] by entrenchment.... Kuhn takes projectability to be a necessary condition for names of a natural kind, but supposes that a scientific revolution will bring with it a new lexicon of projectable words, words which by hypothesis are not entrenched.[24]

Hacking does not highlight here that it is supposedly *extensions* rather than words or names which are entrenched in Goodman—but his opposing of entrenchment to scientific revolution is of interest, and provides moreover another example of how we may be wise to think deeply about the adequacy of Goodman's account of our practices—and about how we could possibly determine whether or not it were a sound account. In short: if anything like the neo-Kuhnian account of deep scientific change *via* new taxonomies of kinds replacing old is right, then there will have to be more dynamism injected into Goodman's nominalism, and not the gradualism and over-conservatism that the "entrenchment" doctrine seems to foster.

Goodmanians owe us a more complete account of how Goodman's philosophy of science relates to actual projections, and actual scientific practices—we need to fill out and satisfy an "adequacy condition" on Goodman's description of these, *before a defender of Goodman can have any justifiable claim to have provided an adequate sketch for a description of scientific practice, and before gaining some normativity from the "reflective equilibrium" which is supposed to emerge from the descriptive account which is the "theory of projection."*[25] This claim of mine might be usefully supported by recalling once more and employing Goodman's "virtuous circle" of adjustment between a descriptive account and the decisions or practices or inferences of which it is an account. This would however require more detailed to Goodman's text than we have room for here, and so will have to be postponed.[26]

But whichever way one conceptualizes Goodman's model of description/justification, it is hard to see how to avoid the conclusion that some "Goodman problem for Goodman" approximating to that set out above will remain. I developed this problem out of what one could characterize as an epistemological scepticism involving the question "How could we know whether Goodman's description of our inductive practices were correct? How can we know whether 'entrenched' is entrenched?" It follows from the logic of Goodman's position that he must allow such

questions to be taken seriously.[27] As I discussed, one could argue that the problem need not arise for others with different commitments; such a suggestion appears to have some initial plausibility. What would happen if one were to substitute "intensions," or "properties," for "extensions" in the "theory of projection?" Goodman of course has some strong objections to such a move, mostly on independent grounds of its being unparsimonious and "occult"[28]; for him, predicates and extensions are all one needs to explicate what others invoke properties and intensions to do. The issue has been considered less frequently than one might suppose, particularly by Realists responding to Goodman. A useful (though partial) recent treatment has been given by David Sosa.[29] His conclusion is that, once one relies on properties rather than extensions, entrenchment plays a reduced role (in a Realist account of Confirmation), with one's emphasis being on "...what language expresses"[30] rather than on the language itself. (The focus apparently falls on language itself if one attaches paramountcy to which predicates are in use.)[31]

I would agree with Goodman against Sosa and others on the general philosophical grounds mentioned above[32]; but I think there is also a stronger line of defense immediately available, which will make clearer how the new riddle may be unavoidable for Realists (and thus how they too must face the self-referential Scepticism that is here detailed), if they are willing to concede only that some degree of inherited or acquired entrenchment is a necessary condition for projectibility. They should be willing to concede this much, to concede for instance that properties entirely unknown and unreferred to previously cannot spontaneously enter into our projective practices. This is because it is unclear how we could make sense of (our use of) predicates or of (our referring to) properties coming into existence wholly *ex nihilo*, and this point does not depend on the "conservatism" we earlier attributed to Goodman's more robust stress on having a high degree of entrenchment.

The stronger line of defence I envisage begins with the following observation: *whether or not* one is an extensionalist, one's account of the meaning and use of terms to which a theory is applied (or, indeed, in which a theory is stated) must have some way of accounting for possible differences between what the terms are taken to apply to prior to inquiry and what they actually apply to. This is so on pain of being saddled otherwise with an untenable "meaning-change" view of what occurs each time background theory changes. Different views of reference and meaning account for this in different ways—for instance, the so-called "causal theory of reference" (as initially developed by Putnam and Kripke and elaborated since by countless others) accounts for it through intricate accounts of relatively stable reference while theory changes.

But any tenable theory—be it Goodman's or Kripke's or whoever's—must find some way of accounting for this phenomenon. The point is then that no tenable theory of reference and meaning can have *what* a term applies to being *"a priori"* in the sense just given. This implies that, while it may be true that intensions (or properties) are easier to characterize prior to inquiry than extensions, the present issue is not decided by the contrast; for the question is not whether the reference of "entrenched" stays constant over time (i.e., whether entrenchment is or behaves like a "natural kind"), but simply whether we have good grounds for saying that "entrenched" is itself entrenched. And that is both a question concerning our epistemic access to the facts of entrenchment, and a question which necessarily involves those phenomena which "entrenched" applies to. Those phenomena are not inspectable *en masse*—they are the *subject-matter* of any would-be account of scientific inquiry, and could only conceivably be settled after an inquiry into science. Such an inquiry will apparently have to pre-suppose the intensions (or extensions) of its terms, unless it first investigates itself before investigating its subject-matter. We seem to be threatened here with infinite regress. Whatever the meaning of "entrenched," or whatever property it instantiates, the question which a Realist consistently risks begging is whether it actually *does* apply to those phenomena.[33] *Now, how would one go about showing that Goodman's account actually does (or does not) apply to the phenomena of scientific practice?* This is a question which I have suggested philosophers must grapple with, irrespective of their semantic or metaphysical commitments.

In short, "Is 'green' entrenched?" Intuitively, yes.

"Is 'entrenched' entrenched?" Once this question has been raised, and it now has been, do we really have *any idea* what to say in answer?[34]

(B) Goodman's "Answer" to the Riddle Goodmanised

I believe that the considerations adduced in (A) above are sound. But even if the argument just given be countered, there are at least two ways in which a *stronger* rendering of the "Goodman problem for Goodman" can be developed, filling in the details of, focusing, advancing the argument of (A) above. I hold that neither of these ways depends principally on Goodman's particular philosophical commitments.

(i) The challenge through entrenchment and co-extension.

I argued in (A) that there were serious grounds for questioning whether scientists (even "scientists of science"[35]) used terms which were

co-extensive with or could pass on their entrenchment to terms such as "entrenched" and "projected"; and thus for questioning the entrenchment and the projectibility of "entrenched." This questioning of the adequacy of Goodman's account as self-applied was in the context of Goodman's extensionalist account of "meaning" *("extensions are not inspectable...")*, and was provisionally generalized beyond that account's confines.

A distinct but parallel argument has been devloped by R.J.Bertolet,[36] to apply directly to "green" and "grue." Bertolet argues that we do not have good grounds for the thought that "the 'grue' hypothesis" is not confirmed by observations of "grue" emeralds (i.e., of green emeralds, now), unless we have sure grounds for the thought that "grue" and "green" are *not* co-extensive. Given that "...[W]e have no *guarantees* ..." of how exactly the future will turn out,[37] we cannot know that "grue" and "green" are not co-extensive. Bertolet's ingenious argument for this is as follows:

> ...[L]et us adopt a specific characterisation of "grue," applicable to time-slices of objects:
>
> > x is grue iff x is green and *t* is prior to 2000 A.D., or x is blue and *t* is 2000 A.D. or later.
>
> Obviously, you will say...there are things in [grue's] extension which are not in the extension of "green" (and vice versa), and so they are not co-extensive properties. Well I think so too: but why do we think so? It might turn out to be otherwise, because the world might be different from what we think. For example, it might turn out that (1) anything which is green is green prior to 2000 and not green from 2000 on, and (2) nothing is blue from 2000 on. Suppose that this is so. Now if x is green, *t* must be prior to 2000, and so x is grue. If x is grue, then either x is green and *t* is prior to 2000, or else x is blue and t is 2000 or later. But (2) tells us that the second disjunct is false, and so x must be green. Thus if the world is as (1) and (2) describe it, then "grue" and "green" are coextensive. If [so]...then "grue" inherits the entrenchment of "green"...[38]

One could object that this particular formulation will not work for all versions/formulations of "grue." Goodman would more likely respond that the only case in which the world could be as described would be one in which the "grue" hypothesis was exhausted at *t;* and that the "theory of projection" applies only to unexhausted hypotheses[39]

While the second point in particular has considerable bite, I believe that Bertolet has drawn our attention to an important point—namely that it is hard and perhaps epistemically impossible to use entrenchment as a basis for *deciding* between "grue" and "green" (just as the efforts of Goodman's critics, from Carnap to the present, to try to find some *other* basis on which to judge in favour of the ("qualitative") predicate, "green," have had almost negligible results).

If "entrenchment" is shown (as possibly Bertolet has found one particular way of showing it) to be an inadequate answer to Goodman's own barely answerable question, then this is evidence, as we already seen, for its being but an element of a "sceptical" answer to a sceptical question.

(ii) The direct challenge through self-reflexivity.

Let us henceforth use the term "Goodmanise" specifically to stand for the process of applying to some term or terms (i.e., to some subject-matter) the same treatment as Goodman applied to the practice of attributing "green" and "blue" to emeralds in the famous thought-experiment at the heart of "the new riddle of induction." Thus to Goodmanise x comes to the same thing in some cases as what is usually known in the literature on the grue paradox as "*gruifying*" x, for one way of "Goodmanising" something is simply to formulate "grue-like" predicates relevant to it. (However, there are other ways of Goodmanising than gruifying—for example, what Hacking terms "gruestarifying," after the Barker and Achinstein formulation of "grue."[40]) The parallelism I drew between "green" and "entrenched" drawn above might suggest to one that "gruification" "begins at home"—*i.e.,* it is suggestive of the possibility that Goodman should treat the predicates and concepts he created exactly as he does those that we are more used to. For, indeed, are there not an *infinity* of possible alternative descriptions of our projective practices? Is this not part of any consistently Goodmanian answer to the series of questions with which (A), above, closed?

Goodman's account of projectibility (Chapter IV of *Fact...*) might be usefully summarized as a complicated generalization of the form:

(Th.): For all hypotheses, H, H is projectible iff...

To the right of the "iff" there would be a complex conjunction of sentences involving predicates such as "projected," "over-hypothesis," "over-rides," "entrenched," and so on. What I am asking here is not "how we could ever know whether this theory were true?" but "*how could this theory itself—this hypothesis—possibly be projectible?*"

Now, one could object that I am unfairly *assuming* that Goodman's "Th." (the "Theory of Projection," formulated to address the paradoxes spawned by Confirmation Theory and ramifying beyond Philosophy of Science) is *an empirical hypothesis in need of confirmation*. But surely Goodman's theory has to bear *some* relation to an empirical hypothesis—at least in the sense that it appears to be saying something about the nature of confirmation/of scientific practice as it is in the world, something not obviously *a priori*. Goodman here is arguably subject to a dilemna—either he asserts that his theory is *a priori*—when it appears

to assert that Confirmation Theory and Philosophy of Science generally cannot be *a priori* (*contra* Deductivism); or he acknowledges that his theory is *a posteori*—in which case it must face the tribunal (of experience...) currently arraigning it. The burden of proof (to show that it is not legitimate to apply Goodman's method to Goodman's own "theory," or that there is some other way for the author of *Fact...* to escape this dilemna) is surely on the defender of Goodman. For it is not only clear that the proto-Rawlsian "virtuous circle" account of description/justification is meant to apply paradigmatically to science, but further, as Goodman remarks in the "Introductory Notes" to *Fact...*: "We have to isolate for study a few simple aspects of science just as science has to isolate a few simple aspects of the world..."[41] The analogy is supposed to be close; and the philosophy of science is identified with the careful scientifical analysis and theoretically-informed description of science.

Could the "theory of projection" be an unrecognized *convention*? This would seem to provide a way out of the dilemna, were it a tenable possibility. Whether we can usefully invoke "conventions," particularly apparently-*unrecognised* conventions, is too large a question to tackle in the present context. But it is salient (and salutory) to note that attributing such a status to the theory would raise at least as many questions as it answered, such as whether it was supposed to be possible to disobey this convention and still be rational, or not.[42]

An objection might be raised to the effect that I still have yet to show that there is a problem in confirming "Th." (even if it is considered more the object of an ordinary scientific inquiry than a convention or what-have-you). That is, someone might object as follows: "For any phenomenon, there is the problem of finding the laws for it; perhaps the problem for the philosopher of science is additionally that we're inevitably looking for social laws to some extent when we investigate the nature of and endeavour to describe human practices (even those of scientists [or philosophers...])." Perhaps Goodman supposes that the way to make progress here is by means of accessing the rules that are followed by scientists or others in making projections, rather than just trying to observe the norms that are as a matter of fact emergent from their behaviour. At this point, questions of whether it is the sociology of projection or its philosophy that we are considering—and of what exactly the difference would amount to—naturally arise. Perhaps Goodman's account is best read as a "philosophical sociology" of our competence in following projective rules; or of our performance? The issue between competence and performance here presumably amounts to the same issue as that of whether "the laws accounting for the phenomena" are those which *should* be observed or those which actually *do* apply. In

short, this is again the issue of whether the "virtuous circle" really is virtuous,[43] of whether one gets some normativity out of limited Goodmanian "reflective equilibrium." We have circled around this issue from several directions now; perhaps the following (much-presaged) thought-experiment will focus the issue, at least so far as concerns the dialectic of *Fact, Fiction and Forecast*.

If one takes Goodman's method (especially in raising the "new riddle") seriously, the problem in confirming the "theory of projection" may be put starkly in Goodmanian terms. Let us Goodmanise the theory of projection; and it may then look like a "non-starter," a "non-answer" to the riddle, or at least like a hypothesis which is not confirmable...

What Goodmanian grounds are there for holding that entrenchment rather than "grentrenchment" is the appropriate way to decide between the projectibility of predicates? Where something is "grentenched" just if it is either *projected most before t* or *has more letters in it than some randomly selected integer (between 1 and n) after t.*

This "bent" predicate—"grentrenched"—creates a "new riddle"-type problem involving what I have characterized as potentially a projective scepticism, of just the same nature as Goodman's new riddle problem - but one level "higher"—*i.e.,* applying to his theory of projection, his "sceptical solution." It is evident that we are here launched on an infinite regress. Just as all observations made by scientists/others are equally consistent with emeralds being green, grue, gred, *etc.*, so all "observations" by philosophers of science are equally consistent with predicates being entrenched, grentrenched, *etc.*, and one could continue the chain as long as were necessary. Note that, just as there are greater or lesser degrees of entrenchment, so there can be greater or lesser degrees of grentrenchment (*e.g.,* the more letters above the randomly selected number, the more grentrenched...). Further, more or less endless variations of the second disjunct in the definition of "grentrenched" are of course possible. Thus the question is not so much, "Which predicates should we entrench?" as "Which predicates have we entrenched—and should our record of the prior record of use of predicates in hypotheses be cast in terms of 'entrenchment' or of 'grentrenchment'?" Now, even if we have grounds for thinking "entrenched" entrenched, do we have grounds for thinking it better entrenched than "grentrenched"? After Bertolet, are we sure that entrenched and grentrenched are not co-extensive? To answer these questions invites a re-application of the very same method of doubt, and thus our knowledge of entrenchment is eternally *deferred*. That is to say, were a Goodmanite to respond that at each level one could provide a "theory of projection"-type response to the re-applied doubts, we should respond that this never gives us securely

what we want, which is a solid base for our theory, "Th.," immune to re-application of "new riddle"-type (sceptical) doubts.

Given that this is so, would we have good grounds for thinking that there was even a fact of the matter as to whether any given predicate was entrenched? For how do we know when *t* is? This is arguably the bite of the infinite regress; it cuts off (at source) the means of solving the riddle of how to differentiate between confirmable and non-confirmable hypotheses.

A similar treatment could be applied to "projected," even were one, *per impossibile*, to find some specific way of overcoming the above gruification of entrenchment. We could quite easily define the bent predicate "grojected," where *the grojection of a hypothesis is simply for it to be projected before t or used exclusively in nonsense-verse* (i.e., "not projected," as *we* would more likely say say) *after t*.[44] Also, one could directly Goodmanise the objects of the theory of projection—i.e., practices, smactices; hypotheses, grypotheses... And so on and so forth.

Since developing the above argument, I have surveyed the vast literature on Goodman, and found that a possibility such as this (namely of inventing "gruesome" predicates to apply to the very theory of projection the utility and veracity of which Goodman is trying to convince us of) has been explicitly recognized only twice.

Michael Slote perceptively analyzed "the new riddle of induction" in his book, *Reason and Scepticism*.[45] After questioning the degree to which entrenchment could possibly *make* projection reasonable, Slote briefly brought up a key reason why entrenchment cannot *justify* the projections we make (except perhaps in the sense of rightly describing them). The reason is that the move from the entrenchment of any given predicate or hypothesis to its projectibility already presupposes the acceptability of certain inductive/projective arguments—i.e., the projectibility of certain predicates. Thus entrenchment cannot be the basis for projectibility, on pain once again of circularity. If we are willing to entertain the new riddle doubts, we have to be open to the possibility that our theoretical description is not right. And this is dramatized in Slote by an example somewhat similar to that I gave above, and modeled closely on Goodman's own exposition:

> ...one can define "goccasions" as "occasions when 'green' is projected within my own immediate ken or occasions when 'grue' is projected outside my immediate ken".... [O]ne could use this Goodmanian predicate to challenge the superior entrenchment of "green" by arguing that, since all occasions in my immediate ken in which one of "green" and "grue" is projected have been goccasions, it is reasonable to believe that all occasions in which one of "green" and "grue" is projected are goccasions, in which case "grue" is always preferred to "green" in

> situations outside my ken, and is thus, presumably, better entrenched than "green." So, unless one already assumes that "an occasion when 'green' is projected" is projectible and that "a gocassion" is not, one cannot justify projecting "green" rather than "grue" in terms of the superior entrenchment of the former. Thus one cannot use facts about entrenchment and the weak principle that entrenchment is (reasonably taken to be) a sign of projectibility to give a general justification for projecting the predicates we typically project and consider projectible.[46]

I think it is evident, without further detailed analysis, that Slote's proposal is similarly generalizable to mine. His rendering "Grue" be better entrenched than "green" is ingenious, and not obviously defeasible. Making the further move of separately gruifying "projected" (*etc.*) is, however, not something he considers.[47]

Published almost immediately after Slote, John Morris's "Some Problems Concerning Projection"[48] contained a similar move. The "gruesome" term he coined is similar to "grentrenched" and "goccasions," but has the additional advantage of involving an apposite pun—the word he invoked as a counterpart to "well-entrenched" was "swell-entrenched":

> A predicate is to be considered swell-entrenched if and only if it is one which is well-entrenched prior to time *t*; after time *t*, it is to be one which one has invented on the spur of the moment, an ad hoc predicate.[49]

If this is a scepticism about Goodman's "sceptical solution," it is the very same scepticism as set the problems for that "solution," only applied to a very particular branch of inquiry—the sociology/philosophy of the sciences. Such scepticism is not then a *separate* "meta-scepticism," and does not appear to require independent motivation. Thus the relevant question is not so much , "Why does all Science have to face the scepticism at once?" as "What grounds does one intending/understanding the new riddle as more than a joke have for not applying it equally to emeralds *and* entrenchment?"[50]

How could someone who took the new riddle seriously respond to such objections as these? In particular, how could someone who wished to take Goodman's "paradox" seriously and yet wished to find a solution to it cotenable with its presentation and nature respond? One might try to find some way out of this difficulty by saying, in defence of Goodman: "This is all very strange—there may indeed be some difficulties with various 'term-of-art' predicates (such as 'entrenched'), which are not wholly mis-described as sceptical problems; and Goodman may not have recognized that the question, 'What *are* our projective practices?' has to be seriously and deeply answered, once it is seriously and deeply raised, such that he hasn't appreciated that even the very practices he looks at

in formulating his theory of projection are capable of infinite re-description; but the fact remains that we *act*—our practices, our projective practices are there, in our science, our everyday life, in our philosophy—perhaps our practices constitute a new species of 'brute facts.' You can no more doubt that we perform actions under some description or another than you can doubt that the objects that we use and manipulate are real. And what Goodman was at bottom interested in was accounting for and perhaps refining these actions, these practices." This is a move which might offer a respite for the Goodmanian,[51] but at this stage it does not end the predicament of one who takes Goodman's problem in *Fact...* seriously.

For we cannot simply gesture at our practices and leave it at that. The reason for this is two-fold: firstly, description of our practices is unavoidable unless we are to abandon the goal of doing any philosophy of science at all[52]; and secondly, even if (*per impossibile*) we were able to pursue "our practices" without being able describe them or reflect on them, this would not solve the problem—for the problem does not lie only in our accounts of our practices, but *in the practices themselves*. You cannot examine the spectroscopic qualities of the light reflected from an emerald, and escape from the worries outlined above, simply by refraining from speaking about what you are doing/from reflecting on it. Your bodily movements as you perform the experiment will only intelligibly constitute a part of the scientific practice which they do in fact constitute if they are conceptualized in a particular way by you and others in your scientific community.[53] If your bodily movements merely happen to echo the same form as would those of someone who at least minimally understood what they were doing, then you cannot even be properly described as "performing an experiment." To say this is not to buy into an overweening mentalism, but simply to avoid a crass behaviorism, which would have it that there could be no difference between the two cases. In short, *many actions are necessarily actions-under-a-description, where that description is at least roughly accessible to the actor and others in her (relevant) community.*

One cannot rest content with an "ineffability of our practices" view. So, for now, it is sufficient to re-state that Goodman has to provide us with a reason for wanting to say, not merely that the scientist is entrenching green rather than grue, but that she is *entrenching* rather than *grentrenching*.[54]

Could one preserve an account drawn up around the concept of "projectibility," but not invoking "entrenchment?" This would involve emphasising that there is something to be said on an abstract and general level about which predicates or hypotheses are properly projected and which are not, but that it is not to be based at all upon the

frequency of past proper usage of predicates (or hypotheses).[55] As discussed above, it is hard *simpliciter* to see how one could follow through on this program *completely* (and obviously one could not and still stay true to Goodman's text). An effort to move in this *direction* but without abandoning Goodman's framework has been made by Hacking. In his view, the concept we should look toward is that of a "predicate-in-use."[56] A predicate-in-use is intuitively even more straightforward than a well-entrenched predicate; it is simply a predicate being used at the present time, its provenance being unimportant. Hacking thinks that the essence of Goodman's point is simply that the predicates and hypotheses that we actually do use, now, cannot in general be rightly said to be the wrong ones.

However, an investigation of this idea turns up significant further problems - for instance, how widely drawn is "the present time?" If it is not more than the very instant, "Now," then many predicates will turn out to be actually not in use, and thus not projectible right now. This is very counter-intuitive. Because we want to say that we *could* use these predicates if...; or that we *would*..., and so on.[57] If we amend our definition of "predicate-in-use" to cope with the problem, we seem bound either to wholly evacuate "projectible" of content (for *all* we wil be able to say is "We use the predicates we use"), or to start talking about entrenchment again, *via* extending "the present" incrementally back into the past (or into the future?! Were we able to see into the future (in which case the problem would presumably not arise in the first place, but that's another story), that would be a beautiful way of undercutting any scepticism about out projective practices—to make the projectible predicates be those which will in the near future be the predicates that are properly projected...).

Hacking's proposal to save the spirit of "Th." needs further development if it is to offer a rebuttal to the doubts identified earlier.[58]

Suppose that, in response to the problems identified in this section, our hypothetical Goodmanite were to say, "O.K., you've got me: Let me say that I am only attempting a description of our actual inductive and confirmational practices *up until now*. I recognize that nothing could ensure its continuing validity into unexperienced (or at least unsampled) cases." This response is one of very few imaginable moves available at this point. Hooker, in an article ("Goodman, 'Grue' and Hempel"[59]) purportedly defending Confirmation Theory, makes precisely this move to avoid there being a contradiction in the system. That is, he argues that the Hempelian system that Goodman extended (and criticised) works perfectly well, given only the "minor concession" that its domain is restricted to times before t.[60] Place t in the immediate future, and the problem is symmetrical with the self-reflexive problem we have seen arising for Goodman—it seems that the defender of Goodman has some

reason to fall back on such a response.

Now we are really getting someplace; for this response *would* leave us with a quite unanswered problem of sampling/projective "scepticism," unless it were radically reformulated.[61] Or, in other words, Hooker's concession is plainly the mark of *a sceptical "solution."*

Equally significantly, this response threatens once again the retention of any *normativity* in Goodman's "theory"; for there is no longer any sense in saying "Do *this* in the future if you want to conform to what you've been doing before." Why? *Because this response has accepted that only our practices up until now have been described, and so what is to count as "the same practice" from now on is literally "up for grabs."* In other words, Confirmation Theory modified *à la* Hooker cannot hold out any reason for thinking that "conform" or "same" will continue to mean the same thing after *t*. One might say that if this is a "Goodmanic" response it is not one with which Goodman the Actualist could be very happy—for it would have conceded that descriptions of the actual may not after all cover the relevant future possibilities.

We have found, in this discussion and the "regress" argument I have given, quite a powerful reason for thinking that when Goodman seriously raises the "new riddle of induction" he buys into certain assumptions and patterns of argument which will commit him to a form of Scepticism (at least, that we can raise this Scepticism in his name).[62] We have seen a powerful reason or reasons for Goodman's discussion being so understood, and we have established that *there is a fairly plausible interpretation of Goodman on which the "theory of projection" is at best a "sceptical solution" to a (presumably) sceptical problem*. Given that *Fact...* can be read this way, we have good grounds for discounting efforts to interpret it which apparently yield *unequivocal* readings of it otherwise. If one concurs with Goodman in taking the never-ending efforts to solve or eliminate the "new riddle" as signs of its continuing potency,[63] and if one suspects that the riddle is unanswerable, then the further issue is arguably: How to avoid getting stuck with meta-"new riddle"-type doubts, which most clearly lend a sceptical tone to one's consideration of the new riddle of induction? If one entertains "Goodman's Paradox" at all, *how to avoid* being snared (still more surely than by the Paradox) by the re-application of the paradox-inducing method to the 'solution' one comes up with?[64]

This is the (new...) riddle of the new riddle.[65]

Notes

1. The quote is from Hacking's "Entrenchment," in *GRUE!*, edited by D.Stalker.

The nested quote is from his *Logic of statistical inference* (Cambridge, UK: Cambridge University Press, 1965, p.41).

2. The first edition was published in 1954. All page references are to the Fourth Edition (Cambridge, MA: Harvard University Press, 1983). We shall be focussing on Chapters 3 and 4, respectively "The new riddle of induction" and "Prospects for a theory of projection." Those "prospects" have been more substantially realized in the years since the publication of the book (henceforth *Fact...*), but these modifications need not concern us here, as explained above. (Goodman explains the term "projection," which does not refer only to induction from past to future instances, but also from past to past instances *etc.*, at the close of Ch.3 and the opening of Ch.4).
3. According, that is, to Goodman's unconventional reading of Hume; see my "Goodman's Hume" (*Dialogos* 67 (1996), pp.95-121), where I argue that Goodman's misreading of Hume is at least instructive in questioning whether Hume actually posed "the Problem of Induction" *as a question to which he lacked an answer.*
4. For the purposes of the present piece, Kripke's fairly straightforward and standard understanding of "sceptical solution" (see p.4, and pp.66-9 of his *Wittgenstein on rules and private language* (Cambridge MA: Harvard University Press, 1982) for clarification) is adequate, should my gloss here prove insufficient.
5. *Spreading the Word* (Oxford, UK: Oxford University Press, 1984), pp. 77-8; see pp.69-74 for definitions of "bent," and other queer Blackburnian coinage (and cf. Parts 3 and 4 of my dissertation, *Practices without foundations?: Sceptical Readings of Wittgenstein and Goodman*, [Rutgers University, 1995]).
6. The term is from Hume; e.g. p.183 and p.268 of *A Treatise of Human Nature* (first published 1739, page references from the Second Edition, including revisions by Nidditch, Oxford, UK: Clarendon Press, 1978).
7. From his assertion that "..we are well aware which of two incompatible predictions [i.e. the 'green' and 'grue' hypotheses] is genuinely confirmed", on p.74 of *Fact...* (*op.cit.*), right through to *Reconceptions in Philosophy* (co-authored with Catherine Elgin, Indianapolis, IN: Hackett, 1988; compare particularly p.51), Goodman has "..never, early or late, thought of my [Goodman's] work as entering into debate over skepticism" (personal communication).
8. As defined on pp. 84-96 of *Fact...* (*op.cit.*) .
9. This proposition is argued in detail in Part 1 of my Ph.D dissertation, *op.cit.* The basic point is that "sceptical solutions" are in no meaningful sense *solutions* to the problem they address. (The tern "cotenable" is due to Goodman—*vida* pp.15-21 of *Fact...* (*op.cit.*).
10. See note 50, below, for references on trying to alter this state of affairs.
11. *Vida* T. Triplett's "Recent work on Foundationalism," *American Philosophical Quarterly*, Vol.27 (1990) 93-116.
12. Goodman (*op.cit.*), p.64.
13. John Rawls, *A Theory of Justice* (Oxford, UK: Oxford University Press, 1972); p.20n *et passim*. There are possible questions of influence and originality -

to begin with, the role of Quine was (perhaps surprisingly, for many of Rawls's readers) as significant in Rawls's thinking as was that of Goodman, according to the notes accompanying Rawls's text; and R.M.Hare's "Decisions of Principle" model, though unmentioned in the text, clearly presages "Reflective Equilibrium" from within Ethics. We cannot dwell further on these matters here.

14. *Ibid.*, p.59 (my italics).
15. Cf. for instance R.Ackermann's "Howard Kahane's Entrenchment Theory", *Philosophy of Science*, Vol.33 (1966) 70-75; and J.Ullian's "The ninth inning", *Journal of Philosophy*, Vol.79 (1982) 332-4. These are good places to start looking for accounts of some of the major *minutiae* of entrenchment and projectibility respectively.
16. Challenged and explained in my "Goodman's Hume" (*op.cit.*).
17. Michael Slote (London, UK: G.Allen & Unwin, 1970), p.132.
18. This point is mentioned by John Morris in "Some problems concerning projection", *Australasian Journal of Philosophy*, Vol.49, No.1 (May 1971), on p.40.
19. Goodman (*op.cit.*), p.66. Goodman's "virtuous circle" between principles and particular inferences/actions is described chiefly on pp.62-6.
20. I.e., On the traditional reading of Hume as inductive sceptic.
21. Through one of those self-reflexive twists beloved of philosophers, one could argue that the "tenseless" prose of this passage is peculiarly inappropriate, as the situation has changed since Goodman's day—"entrenched" and "projectible" now are entrenched, at least among philosophers! Thus Hacking: "Forty years later, and much philosophical usage under the bridge, it seems safe to start with the idea of a predicate being projectible" (*op.cit.*, p.12).
22. Explicated rather too tersely on pp.95-6 of *Fact...*
23. For more in a Goodmanian vein on "extensionalism," its relation to "nominalism," and related issues, consult Catherine Elgin's *With reference to reference* (Indianapolis, IN: Hackett, 1983), p.7.
24. Hacking, "Working in a new world: the taxonomic solution"; paper given at Structure of Scientific Revolutions Conference, 19 May 1990, p.8; a somewhat different version of this has since been published in a collection (edited by P.Horwich [Cambridge, MA: Massachusetts Institute of Technology, 1996]), entitled *World Changes: Thomas Kuhn and the Nature of Science*. In "Uses of grue" (unpublished), Hacking argues that it is time to replace the emphasis on "entrenched predicates" with one on "predicates-in-use," though what exactly the latter notion will come to remains to be seen (see [B], below). Goodman probes the difficulty on pp.14-17 of *Reconceptions...* (*op.cit.*).
26. A further reason for this claim may be yielded by there being different versions of "entrenchment" and "projectibility" circulating. Compare Ackermann (*op.cit.*).
27. See Section (IV) of Part 3 and also Part 5 of my dissertation (*op.cit.*) for this. It *may* be that Goodman transvalues the dichotomy between description and justification more effectively than any other Analytic philosopher. If this is so, then he could embrace the conclusion of Stewart Cohen's Analytic meditation on the possible nature of (epistemic) justification, "Justification

and Truth" (in *Philosophical Studies*, Oct. 1991), to the effect that that there really are no coherent accounts of justification, except possibly either those which trenchantly stick to a naive Foundationalism or *those which abandon without nostalgia the search on a global level for connections between Truth and Justification, and understand 'justification' to be an aspect of (right) description.*

27. Much as Kripke's Wittgenstein would be committed to entertaining no-fact-of-the-matter scepticism on such an issue—see Parts 2 and 4 of my dissertation (*op.cit.*).
28. *Fact...* (*op.cit.*), pp.41-5.
29. "Grue, Goodman and Generalization," a paper (unpublished) given at the New Jersey Region Philosophy Conference, Rutgers University, on Nov.23 1991. Andrzej Zabludowski has more tentatively offered a similar proposal (in *Pacific Philosophical Quarterly*, 72 (1991) 78-85),"On Induction and Properties."
30. *Ibid.*, p.10.
31. As Goodman appears ultimately to do—cf pp.120-4 of *Fact...* (op.cit.).
32. As will be explicated in more detail in Part 5 of my dissertation (*op.cit.*).
33. Zabludowski (pp.80-3, *op.cit.*) arguably begs this question. For, after making fairly clear that, even assuming "property-realism" in the fairly strong sense implied in his paper, still explicit definitions are not available for the properties (be they the property of being green, or hardround, or entrenched) he is discussing, he yet appears to conclude (p.83) that the existence of such properties is sufficient for us to be able to determine exactly which properties are instantiated in which observable phenomena. It should be particularly obvious that this is not going to work for phenomena which we do not as yet have a firm grasp of how to explain causally—*viz., the very phenomena which any philosophical approach to the process of Science must be able to account for,* in the general sense of explaining how it is that scientists are able to regularise them, to gradually explain and fully constitute their discovery, *etc.*
34. I.e., no matter what our views on Semantics and Reference.
35. E.M. Minsky's "Philosophy of Science, History of Science, Science of Science" (in Hintikka *et al* [eds], *Probability, Thermodynamics, and the History of Science* [Dordrecht, 1981] 295-300) contains some possibly instructive hints as to how to take Goodman's philosophical observations: *viz.* as sketches for a science of science, by which is meant rougly a theoretically-informed and concretely-empirical sociology/ethnography of science.
36. "On the merits of entrenchment", *Analysis,* 37 (Oct. 1976) 29-31.
37. *Fact...* (op.cit.), p.99. My italics—to indicate that what is required to defeat this given is more than simply a refusal "...to accept Hume's claims..." (Bertolet, *op.cit.*, p.31). *Bertolet, like Morris and Slote* (whose formulations are invoked in (ii), below) is too ready to *assume* that Goodman is a 'Humean' (rather than to argue how he might be), and that the only way to understand his philosophy, once its interpretability as sceptical is uncovered, is as a re-hash of 'Humean Inductive Skepticism'.
38. *Ibid.*, p.31.
39. And furthermore that where there is no actual conflict between hypotheses,

the one involving the more entrenched predicate wins—though this would beg Bertolet's question. Perhaps a toss of the coin would then suffice?

40. One might consider "quusifying" a form of Goodmanisation—though perhaps it would be better to reserve the term "Kripkenstisation" for such cases...
41. *Op.cit.*, p. xx. On this point, Paul Horwich's quasi-Wittgensteinian Bayesian approach to problems in the philosophy of science in "The role of probability in philosophy of science" (unpublished) may provide a useful way to understand constructive ways out the difficulty explicated here—I hope to explicate and respond to Horwich's approach, as manifested in this and other papers of his, in future work.
42. Goodman's thought is self-consciously somewhat akin to a position that often goes under the name of "Conventionalism" (see particularly *Ways of Worldmaking* (Indianapolis, IN: Hackett, 1978), p.116-120 *et passim*), but he generally appears to hold that the "conventions" in question are less avoidable than, say, Quine, insofar as Quine is a Conventionalist about analytical hypotheses and translation. Cf. Hilary Putnam's "The refutation of Conventionalism" (*Nous*, Vol.8 (1974) 24-40).
43. This issue is decided in Part 5 of my dissertation (*op.cit.*).
44. This would turn around the question I ask in Part 4 of my dissertation, namely "Why should being projectible depend on having been projected?" by asking "Why project hypotheses rather than 'groject' them?" I claim that the introduction of the concepts "grentrenchment" and "grojection" undermines Goodman's definition of projectibility. It suggests that there is no non-question-begging way of justifying the conceptualization of one's practice (*qua* theorist of/philosopher of science) as being the confirmation of "the theory of projection/projectibility" rather than of some "theory of 'grojection/grojectibility'"—The question then is whether we can find a way of understanding the Goodmanian project which is not sceptical.
45. *Op.cit.;* particularly pp.132-167.
46. Slote, *op.Cit.*, p.139.
47. Slote's treatment of this particular aspect of the new riddle is briefer than mine, as are his doubts (on p.166) as to the "newness" of the new riddle. The quote given on p.7, above, evidences that Slote is too ready to assume the identity of Goodman's view with Humean Skepticism.
48. *Op.cit.,* particularly p.45.
49. *Ibid.* In response to the difficulty suggested by this, Morris states that the "problem of projection is...a problem of empiricism," and suggests that "a concept of...law" will extricate us from it. But isn't the gruification of an account of (the history of) the relevant predicates, even one involving law statements, equally possible? Not being an Empiricist does not (alone) solve Goodmanic riddles.
50. S. Cade Hetherington, in *Epistemology's paradox* (Savage, MD: Rowman & Littlefield, 1992), argues that there is indeed an obligation on philosophers to meet the standards they set for others (pp.1-11) and that, in the case of most epistemologists, the obligation *is not met* (pp.116-121, *et passim*). Thus we should be sceptical as to the scepticisms they purport to set up.

51. *Vida* Part 5 of my dissertation (*op.cit.*).
52. Cf pp.xviii, xx, xxii & xxiii of Goodman's 'Introductory Notes' to *Fact...* (*op.cit.*).
53. Showing this in very concrete terms is one of the achievements of Latour & Woolgar, *Laboratory Life* (2nd Ed., Princeton, NJ: Princeton University Press, 1986), Ch.1, Postscript, *et passim*.
54. Here, as elsewhere, I finesse the point that there are distinctions to be made (distinctions which can make a difference) between the entrenchment or projection of *predicates* and of *hypotheses*. This point is addressed in (e.g.) Section (VI) of Part 3 of my dissertation (*op.cit.*).
55. Cf p.400 of *Problems and Projects* (Indianapolis, IN: Bobbs-Merrill, 1972) for Goodman's amended view of *proper* projection and its import. Goodman tries usually to present his schema as purely fact-oriented, and this helps open him up to the charge of being potentially in dialogue with scepticism after all. Morris (*op.cit.*) notes this on p.40 and p.44.
56. "Uses of 'grue,'" *op.cit., passim*.
57. Once more, note that these are counterfactuals.
58. My actual view is that Hacking's response will turn out to be dead right, because unlike almost all of Goodman's commentators, and Goodman himself on occasion, Hacking is clear that "new riddle"-type problems simply are not in general amenable to any kind of solution whatsoever. The challenge is to be able to face up to the lack of any philosophical foundation for projection beyond, roughly, "We use those predicates that we use, those that form a workable set along with others," *etc.* *Vida* Part 5 of my dissertation, *op.cit.* .
59. *Phil.Sci.* 35 (1967) 232-247. This piece is a fairly detailed discussion of the impact on Confirmation Theory of the "grue" paradox.
60. *Ibid.*, p.245.
61. Hooker concedes this (*ibid.*), but somehow thinks that it does not vitiate his defense of Confirmation Theory.
62. Goodman may be (as Kripke famously remarked) perhaps surprisingly close here to the terrain of (Kripke's) Wittgenstein. See Parts 2 and 4 of my dissertation (*op.cit.*).
63. *Fact...*, p.xxiv.
64. This "paradox of Goodman's Paradox" may be relevantly similar to S. Cade Hetherington's *Epistemology's Paradox (op.cit)*, although this is *not* a possibility that Hetherington explores or even really discerns (cf. note 2, p.109). I have yet to have a thorough enough understanding of *Epistemology's Paradox* to determine whether or not the formulations in (A), above, are analogous to Hetherington's postulated self-refutation of epistemology. (See also note 50, above)
65. Acknowledgements to all who have helped me with this paper, especially Barry Loewer.

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Piaget, Dewey, and Complexity

Kathleen Martin
Mississippi University for Women
Douglas J. Simpson
Texas Christian University
& Jeanette Gallagher
Lehigh University

When viewed from the perspective of complexity theory, the epistemological stances of John Dewey and Jean Piaget reveal complementary ideas. Both Dewey and Piaget considered cognition as an open system contingent on continuous interactions with the environment and used this epistemological framework of interaction to critique empiricism. The interactive and inseparable nature of the knower and the to-be-known stand out in both epistemologies. In contrast, empiricism posited an objective external world separate from a subjective internal world; mind was distinguished from its physical embodiment, and thought was divorced from action, theory from practice. Empiricism constructed an impermeable membrane between us and the world in which we live. The work of Dewey and Piaget cries out against the dualisms wrought by empiricism and seeks to recover the permeability of life-in-the-world.

Piaget argues that empiricism is contradicted by the fact that knowledge is derived from action, thus affirming the inter- penetrability of doing and thinking: "To know an object is to act upon it and to transform it, in order to grasp the mechanisms of that transformation as they function in connection with the transformative actions themselves."[1] Related to Piaget's emphasis upon knowledge as an interactive process is his distinction between empirical abstraction (proceeding from the properties of objects) and reflective abstraction (proceeding from the subject's actions and operations).

> ...in the constitution of a field of knowledge, empirical abstractions characteristic of the reading of observables or of experimental facts and

> reflective conceptualized abstractions necessary for the construction of "inferred" facts or concepts inherent in deductive coordinations alternate with each other.[2]

Dewey argues similarly in *Democracy and Education* when he highlights the importance of interaction and implicitly alludes to the notion of feedback:

> Experience is in truth a matter of activities, instinctive and impulsive, in their interactions with things. What even an infant "experiences" is not a passively received quality impressed by an object, but the effect which some activity of handling, throwing, pounding, tearing, etc., has upon an object, and the consequent effect of the object upon the direction of activities.[3]

For Dewey and Piaget, biological activity presages cognitive activity. Consequently, the autoregulation characteristic of biological organization and adaptation is evident in cognition in an analogous fashion. In *Biology and Knowledge*, Piaget states:

> Life is essentially autoregulation.... cognitive autoregulation makes use of the general systems of organic regulation such as are found at every genetic, morphogenetic, physiological, and nervous level, and forthwith adapts them to their new situation.... This situation constitutes the exchanges with environments that form the basis of behavior.[4]

Similarly, the primary postulate of Dewey's naturalistic theory of inquiry argues for continuity between less complex biological operations and the more complex operations of cognition. Since Dewey believes that an organism lives by means of its environment and not merely within the environment, every differentiation in the structure of an organism "provides a new way of interacting in which things in the world that were previously indifferent enter into life-functions."[5] Herein lies an important feature of Dewey's concept of continuity: "...rational operations grow out of organic activities, without being identical with that from which they emerge."[6] With increased differentiation of structure and its corresponding activities comes the need for maintaining balance among them. These balancing processes are self-maintaining in that they sustain the conditions needed for ongoing interactions between the organism and the environment. Thus, for Dewey, balancing processes are characteristic of life-activities: "Indeed, living may be regarded as a continual rhythm of disequilibrations and recoveries of equilibrium."[7]

Piaget also affirms a need for balancing processes in cognitive development. He refers to such coordination as equilibration, the essence of which is autoregulation:

> ...in the construction of any operational or preoperational structure, a subject goes through much trial and error and many regulations which involve in a large part self-regulation. Self-regulations are the very nature of equilibration. These self-regulations come into play at all levels of cognition, including the very lowest level of perception.[8]

Garcia argues that equilibration can be considered the "core of Piagetian conceptions" and, as such, is consistent "within the context of present-day ideas on the development and evolution of systems which, like the cognitive system, are *natural systems, complex,* and *open."*[9] According to Garcia, Piaget was aware that cognitive equilbria shared features with "those dynamic steady-state conditions referred to by Glandsdorff and Prigogine."[10] Similarly, Prigogine recognized Piagetian cognitive structures as an illustration of dissipative structures. In *Psychogenesis and the History of Science,* Garcia identifies five analogies that he sees between Prigogine's "dissipative structures" and Piaget's cognitive equilibria.

> In the first place, these structures concern dynamic equilibria which include interchanges with the outside; these are quite different from equilibria without interchange. Secondly, it is these interchanges which stabilize the structures through regulations. Thirdly, equilibration as such is characterized, in both cases, by a form of "a self-organization." Fourthly, the states, at given points in time, having passed through a series of instable states, can be understood only on the basis of their past history. Finally, and most importantly, the stability of a system is a function of its complexity.[11]

Briggs and Peat point out the paradoxical nature of Prigogine's dissipative structures in that the name suggests both a falling apart and a holding together. The structures are "capable of maintaining their identity only by remaining continually open to the flux and flow of their environment."[12] For Dewey, this integrated relation of the tendencies to fall apart and to hold together is the source of cognitive development. He describes it as an "ability to make and retain a changed mode of adaptation in response to new conditions."[13] Disturbed equilibration constitutes need which then results in a movement toward restoration of equilibration. Restoration never occurs, however, because "activities carried on for satisfying needs so change the environment that new needs arise which demand still further change in the activities of the organism."[14] Besides the changes in environment Dewey also posits "changes in the organic structures that condition further behavior."[15] Such modifications constitute what Dewey refers to as "habits." These habits, he believes, are the basis of organic learning.

Dewey's "habits" are not rigid and recurrent behaviors. Like Piaget's

structures, they grow and change. The habits that Dewey postulates have direction and cumulative force and thus, as with Piaget's structures, the more highly evolved govern and regulate the less highly evolved. But the habits are also subject to ongoing transformations "and hence retain a certain amount of flexible capacity to undergo further modification as the organism meets new environing conditions."[16] The transformative nature of Piaget's structures is characterized by what he terms a combination of production and conservation.

> There is always some production, that is, some kind of transformation taking place. Similarly there is always some conservation, something that remains unchanged throughout the transformation. These two are absolutely inseparable.... Conservation demands compensations, and consequently equilibration. If something is changed, something else must change to compensate for it, in order to result in conservation.[17]

Neither Piaget nor Dewey envisioned that cognitive functioning would achieve a definitive state. For Piaget, "there is a continual search for a better equilibrium...in the sense of an increase in the number of possible compositions, and in the sense of a growth in coherence."[18] Dewey reiterates this position within the context of inquiry.

> What the organism learns during this process produces new powers that make new demands upon the environment. In short, as special problems are resolved, new ones tend to emerge. There is no such thing as a final settlement, because every settlement introduces the conditions of some degree of a new unsettling.[19]

Both Dewey and Piaget postulate a cognitive system that defies dualism. The structures and habits of intelligence which they describe emerge out of the interactions of the "opposites" of traditional dualisms. Thus the cognitive system which each proposed has the ability to bring stability and instability into a special kind of balance. This balance point is characteristic of all complex systems and, within the framework of complexity theory, is referred to as the edge of chaos.

> This balance point—often called the edge of chaos—is where the components of a system never quite lock into place, and yet never quite dissolve into turbulence, either. The edge of chaos is where life has enough stability to sustain itself and enough creativity to deserve the name of life.[20]

Piaget's epistemology, his theory of how an organism comes to know its world, is grounded in the biological and psychological perspectives that characterized his life work. His concern was to describe the structures and operations through which action is interiorized and transformed into mental life. The balance of stability and instability is

achieved through the self-regulation which governs the fundamental equilibrium between differentiation and integration.

> ...integration, as a function of differentiation, poses new problems. These new problems lead to the construction of new actions upon the previous actions, or new operations upon the previous operations. The construction of operations upon operations is probably the secret of development and of the transition from one stage to the next.... the notion of operation itself involves self-regulatory mechanisms.[21]

Dewey, on the other hand, was a philosopher and educator who believed that "the significant problems and issues of life and philosophy concern the rate and mode of the conjunction of the precarious and the assured, the incomplete and the finished, the repetitious and the varying, the safe and sane and the hazardous."[22] For Dewey, the complexity of natural events manifests itself in different characterizations or "phases of conjunction" that tended to be treated as opposites. Since "the issue of living depends upon the art with which these things are adjusted to each other," his concern was the formation of a theory of inquiry that generated meanings grounded in logical connections and interdependencies of seeming opposites. The general pattern of inquiry that he describes is foreshadowed by the pattern of interaction of organism and environment.

> The latter is indicative of a partial disintegration of a prior integration, but one which is of such a dynamic nature that it moves toward reintegration.... inquiry grows out of an earlier state of settlement, which, because of disturbance, is indeterminate or problematic, and then passes into inquiry proper, (corresponding to the searching and exploring activities of an organism); when the search is successful, belief or assertion is the counterpart, upon this level, of reintegration upon the organic level.[23]

Having established the continuity of thought and action and the necessary condition of equilibration in the epistemological positions of both Dewey and Piaget, this paper will now attempt to explicate briefly the implications of these complementary epistemologies for teaching and learning and the preparation of teachers. Both Dewey and Piaget, particularly Dewey, have written considerably about education and have sought to address specific educational concerns in their work. Foremost of these concerns is the failure of education to focus on the child who is learning rather than on the administration of procedures of educating. Concern for the child makes evident the need for active engagement in learning and thus abandonment of transmission as the primary mode of teaching, especially for young children. Dewey succinctly states that

"information severed from thoughtful action is dead, a mind-crushing load."[24] Similarly, Piaget argues:

> If we desire, in answer to what is becoming an increasingly widely felt need, to form individuals capable of inventive thought and of helping the society of tomorrow to achieve progress, then it is clear that an education which is an active discovery of reality is superior to one that consists merely in providing the young with ready-made wills to will with and ready-made truths to know with.[25]

While the need for active methods (as contrasted with receptive methods) is more widely recognized today, Piaget suggests that there has been little progress in this direction because "the best methods are the most difficult ones."

> ...an active pedagogy presupposes a much more advanced kind of training, and without an adequate knowledge of child psychology (and also ...without a fairly good knowledge of contemporary developments in those disciplines), the teacher cannot properly understand the students' spontaneous procedures, and therefore fails to take advantage of reactions that appear to him quite insignificant and a mere waste of time.[26]

Dewey warns against acting out of the belief in a general intellectual method for all. Individual method regards students in terms of the quality of their minds as they engage in meaningful activities. A general method applied to all can only regard students in terms of a quantity of mind.

> Imposing an alleged uniform general method upon everybody breeds mediocrity in all but the very exceptional. And measuring originality by deviation from the mass breeds eccentricity in them. Thus we stifle the distinctive quality of the many and, save in rare instances, infect the rare geniuses with an unwholesome quality.[27]

The educational situation described by Dewey and Piaget is unlikely to change unless, as Piaget suggests, pedagogy becomes the "work of pedagogues."

> The general problem is to understand why the vast army of educators now laboring throughout the world with such devotion and, in general, with such competence, does not engender an elite of researchers capable of making pedagogy into a discipline, at once scientific and alive, that could take its rightful place among all those other applied disciplines that draw upon both art and science.[28]

Piaget proposes that the absence of significant pedagogical research is to some extent a function of the absence among schoolteachers of an intellectual prestige experienced in professions such as law and medicine.

> ...the schoolteacher is not thought of, either by others or, what is worse, by himself, as a specialist from the double point of view of techniques and scientific creativeness, but rather as the mere transmitter of a kind of knowledge that is within everyone's grasp. In other words, it is considered that a good teacher is providing what is expected of him when he is in possession of a general elementary education and has learned a few appropriate formulas that enable him to inculcate a similar education in the minds of his pupils.[29]

Piaget identifies some obstacles that prohibit educators from engaging in substantive research related to fundamental educational problems: a public which is unaware of the complexity of the educational undertaking; mandates, techniques, and programs dictated at the local and state levels which supplant the professional judgment and intellectual autonomy of the educator; and the absence of an atmosphere of research and experiment specific to the development and implementation of pedagogic processes proper. If the latter obstacle were overcome, its resolution would seem to precipitate resolutions to the other two obstacles identified by Piaget. The presence of research specific to pedagogic processes, what Piaget terms a discipline of experimental pedagogy, would argue for the complexity of the work of teachers. Similarly, it would establish respect for professional judgment of those educated in the discipline.

Piaget suggested that "if experimental pedagogy wishes to understand what it is doing and to complete its observations with causal interpretations or 'explanations,' it is obvious that it will have to employ a precise psychology, not merely that of common sense."[30] Genetic epistemology would seem to be an appropriate "precise psychology" to interact with Dewey's work to constitute a framework for an experimental pedagogy. Piaget attributes the origin of experimental pedagogy to his mentor, Edouard Claparede, and he links Claparede and Dewey in identifying contributors to "a more accurate vision of that authentic process of construction that is the true development of mind."[31] Perhaps it is appropriate that the work of two of the most dynamic minds of the twentieth century, Dewey and Piaget, should create the condition for the development of an experimental pedagogy that enables the minds of children to grow.

Notes

1. J. Piaget, *Science of Education and Psychology of the Child* (New York: Columbia University Press, 1970), p. 28-29.
2. J. Piaget & R. Garcia, *Psychogenesis and the History of Science* (New York:

Columbia University Press, 1989), p. 214.

3. J. Dewey, *The Collected Works Of John Dewey*, ed. JoAnn Boydston (Carbondale and Edwardsville, IL: Southern Illinois University Press, 1969-1991), 9:160.
4. J. Piaget, *Biology and Knowledge: An Essay on the Relations Between Organic Regulations and Cognitive Processes* (Chicago, IL: University of Chicago Press, 1971), p. 26.
5. Dewey, *The Collected Works*, 12:32.
6. *Ibid.*, 12:26.
7. *Ibid.*, 12:34.
8. J. Piaget, Problems of Equilibration. In eds. H. Gruber & J. Voneche, *The Essential Piaget* (New York: Jason Aronson, 1995), p. 840.
9. Rolando Garcia, The Structure of Knowledge and the Knowledge of Structure, In eds. Harry Beilin & Peter B. Pufall, *Piaget's Theory: Prospects and Possibilities* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1992), p. 30.
10. *Ibid.*, p. 31.
11. Piaget & Garcia, *Psychogenesis*, p. 274-275.
12. J. Briggs & D. Peat, *Turbulent Mirror: An Illustrated Guide to Chaos Theory and the Science of Wholeness* (New York: Harper & Row, 1989), p. 139.
13. Dewey, *The Collected Works*, 1:66.
14. *Ibid.*
15. *Ibid.*, 12:38.
16. *Ibid.*, 12:39.
17. J. Piaget, Problems of Equilibration, p. 840.
18. *Ibid.*
19. Dewey, *The Collected Works*, 12:42.
20. M. Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Simon & Schuster, 1992), p. 12.
21. Piaget, Problems of Equilibration, p. 839.
22. Dewey, *The Collected Works*, 1:66.
23. *Ibid.*, 12:40.
24. *Ibid.*, 9:159.
25. Piaget, *Science of Education*, p. 26.
26. *Ibid.*, p. 69.
27. Dewey, *The Collected Works*, 9:180.
28. Piaget, *Science of Education*, p. 10.
29. *Ibid.*, p. 12.
30. *Ibid.*, pp. 23-24.
31. *Ibid.*, p. 146.

Toward the Intellectual Understanding of Anti-Intellectual Popular Culture: Abbott and Costello's *Here Come the Co-Eds* (1945)

Michael A. Oliker
Northeastern Illinois University

I. Introduction

In his book *Enlightened Cherishing,* Harry S. Broudy makes a distinction between "popular art" and "serious art." For Broudy, "popular art" is "widely accepted" and "requires no connoisseurship or special training for its appreciation."[1] While he acknowledges that there can be such an activity as the serious *study* of popular art, Broudy is concerned to insist that the serious study of popular art does not convert popular art into serious art. My purpose in writing this paper is *not* to argue that Bud Abbott and Lou Costello's 1945 lowbrow comedy *Here Come the Co-Eds* should be regarded as a film at the level of *Citizen Kane*.[2] What I wish to do is to show what is in the film that might be worthy of serious attention or repeated viewings despite its being neither Abbott and Costello's nor Lon Chaney, Jr's best performance (cf. *Abbott and Costello Meet Frankenstein*). I have argued elsewhere that films made during the 1940s with schools or classrooms as their settings reveal a change in popular educational ideology from a basic optimism about the value of education to a deep-rooted cynicism that what goes on on the campuses of educational institutions cannot be anything other than meaningless rituals.[3] I believe that the close scrutiny of popular arts in any era can reveal much that is worth knowing about social trends.

Here Come the Co-Eds is usually identified as a musical comedy starring Abbott and Costello. It was released in 1945 near the end of World War II. The setting for this film is Bixby College for Young Ladies,

a small private women's college in financial difficulty. Chaney plays the part of Johnson the custodian: a rather ill-tempered individual whose loyalties are to Jonathan Kirkland (Charles Dingle) the Chair of the Board of Regents. Kirkland appears to be embroiled in a power struggle with Bixby's Dean Larry Benson (Donald Cook). As the sociologist David Reisman might have pointed out, Kirkland is a Tradition-Directed individual while Benson is more Other-Directed.[4] The essential conflict is that Kirkland wants to keep the school the same as it was during his grandmother's day, while Benson wants the school to remodel itself according to whatever might be good public relations. One of Benson's more controversial reforms is the establishment of an intercollegiate women's basketball team. The crisis comes when the Bixby team must go up against Carlton College's championship team which has in reserve a contingent of large athletic women who play for a professional women's team called The Amazons. Contrary to what you might expect, Bixby does *not* win the game!

But Bixby does survive. Although much of the comic action in this film is structured around confrontations between Abbott and Costello's characters and the character played by Chaney the reader should remember that this is an Abbott and Costello film, not a Chaney film. Despite outstanding performances in *Of Mice and Men* (1939)[5] and *The Wolf Man* (1941),[6] Chaney still accepted low prestige roles. In this film, Chaney is billed sixth. His character—Johnson—is the ally of the villain Kirkland while the stars' characters—Slats McCarthy (Abbott) and Oliver Quackenbush (Costello)—are the allies of Dean Benson. Chaney's performance is not comparable to his major roles in *Of Mice and Men* or the Wolf Man series. His role is a supporting role that is not fleshed out. The audience learns little about the character of Johnson the custodian although the scene in which his first name is mentioned does have dramatic impact. Nor is Chaney's performance comparable to his brief appearances in supporting roles in *High Noon* (1952) and *Not as a Stranger* (1955) that have a tremendous impact on the viewer.[7] In this film, Chaney plays a type of character that is often termed a "flat" character by literary critics such as M.H. Abrams.[8] The character has a function in the story that requires the writers not to flesh out the character. So it is inappropriate to criticize Chaney's performance as shallow: that is how the character is written.

From the very beginning of this film it is suggested that there may be a dark side to the fortunes and misfortunes of Bixby College. When Slats and Oliver are hired to work at Bixby, they are hired by Benson but are assigned to work for Johnson. Johnson is the college custodian so Slats and Oliver are the assistant custodians. But there is an immediate

joke about "the custodian needing a custodian." When Slats and Oliver are assigned to clean up the custodian's quarters—which will be the residence of all three of them—they discover that the quarters are not fit for habitation and much humor results from the difficulties that Oliver gets into by simply trying to wash dishes and clean up the floor. Throughout the film, Johnson is rarely shown doing any of the usual work of a custodian while Slats and Oliver find that their job description does not cover the full scope of their responsibilities.[9] Clearly they are at Bixby to serve as Benson's right hand men while Johnson is serving Kirkland more as a strong arm man. The film is more than half over when the audience finally learns Johnson's first name: "Strangler."

II. Contexts and Issues

A. *Film Noir*

Here Come the Co-Eds was made during the 1940s near the end of World War II. Although the United States won WWII, the American public did not emerge from the war years in a confident, optimistic spirit.[10] Rather, the dominant mood of the public seems to be reflected in the style of filmmaking that has come to be known as *film noir*.[11] *Film noir* typically places its characters in settings dominated by dark shadows wherein the characters are oppressed by forces they cannot control. So, in a *film noir*, everyday events take place in a visual and narrative context that is commonly associated with horror movies. When *Here Come the Co-Eds* was released, Chaney had already appeared as the wolf man in several films and was beginning his *Inner Sanctum* series. In the *Inner Sanctum* series Chaney frequently portrayed characters who are inadvertently drawn into crime.[12] These characters may escape their difficulties by the end of their films, but in the horror films and the *Inner Sanctum* films much of the action takes place in dark and sinister environments. In *Here Come the Co-Eds*, both the opening sequence at the Miramar Ballroom and the closing scene at the torchlight parade take place at night. So the presence in a musical comedy of night scenes as both prologue and epilogue, a supporting actor who is known for his appearances in horror films, and a director who has directed horror films introduce the elements of the *film noir* into a musical comedy. The mere appearance of Chaney in a scene in this film is a symbol of the presence of evil.

B. The Politics of the 1940s

In 1945 the United States was approaching victory in World War II but suddenly President Franklin D. Roosevelt was dead and Prime Minister Winston Churchill of England—the articulate leader of America's number

one ally—was out of office. And the atomic bomb—which had ensured America's victory over the Japanese—was suspected of unleashing forces that might have the potential to destroy all mankind, not just our enemies. So, even the historical events of 1945 seem to take on the characteristics of a *film noir*. The Republican victory in the 1946 election that resulted in the appearance as members of Congress of Richard M. Nixon and Joseph McCarthy seems to have been the result of a campaign that suggested a sinister future. Their slogan was: "Had enough? Vote Republican!"[13]

C. Careers of the Director and the Actors

Here Come the Co-Eds was Abbott and Costello's first of many appearances with horror film stars and characters between 1945 and 1955. In later films, they would encounter the undead vampire Count Dracula, The Frankenstein Monster, The Invisible Man, Dr. Jekyll and Mr. Hyde, extraterrestrials, killers, and The Mummy.[14] (Chaney did not appear in *Abbott and Costello Meet the Mummy* [1955].) The director of *Here Come the Co-Eds*—Jean Yarbrough—had already worked with Bela Lugosi in the horror film *Devil Bat* (1940) and had directed other horror films. Yarbrough would soon work with the deformed actor Rondo Hatton in the horror films *House of Horrors* (1946) and *The Brute Man* (1947).[15] After making the horror film *The Creeper* (1948), Yarbrough switched from horror work to extensive work with Abbott and Costello. *Here Come the Co-Eds* was not Yarbrough's first work with Abbott and Costello. He had already directed them in *In Society* in 1944 and immediately directed another Abbott and Costello film—*The Naughty Nineties*—in 1945. He followed up with two more of their films in 1952: *Jack and the Beanstalk* and *Lost in Alaska*. He also became the main director of Abbott and Costello's television program in the 1950s. However, Yarbrough did not devote himself to comedy exclusively. At the end of his directing career in 1967, Yarbrough worked with Chaney again and two other elderly horror film stars—John Carradine and Basil Rathbone—in the low budget production *Hillbillys in a Haunted House*.

Again, the presence of Chaney as Strangler Johnson in *Here Come the Co-Eds* signals the presence of the forces of darkness on the campus of Bixby College. Johnson is not just another custodian. He is a custodian who has connections to the underworld and may have had past involvements in fixed sports events. The events at the end of *Here Come the Co-Eds* consist of attempts to prevent Bixby from closing by students betting on a supposedly fixed wrestling match. Quackenbush upsets the applecart of the gamblers by unexpectedly winning the match. So Kirkland, Johnson, and the gamblers set up a fixed basketball game between the women of Bixby and the women of top-rated Carlton College. Kirkland

brings in a group of professional women basketball players to substitute for Carlton's starting lineup in the second half of the game. And despite the appearance of Quackenbush in drag as a member of the Bixby team and the presence of the legendary sportscaster Bill Stern (playing himself) as game broadcaster, Carlton still wins the game. For a moment, Kirkland, Johnson, and the gamblers have the prize money and it appears that the forces of the underworld have triumphed and Bixby College will be closed. But the movie is not over. Yet.

D. Women's Issues

Bixby College is a women's college. From a feminist point of view, the main character of *Here Come the Co-Eds* is Slats's sister Molly McCarthy (Martha O'Driscoll) trying to survive in a male-dominated world. Indeed, a comparison of *Here Come the Co-Eds* with the 1952 film *She's Working Her Way Through College* reveals that the two films have virtually the same plot. But in the latter film Virginia Mayo receives top billing as a former burlesque queen who is sincerely seeking an education with the assistance of a sympathetic professor (Ronald Reagan!).[16] In *Here Come the Co-Eds* there are occasional hints that Kirkland may be a sexist. For example, in a scene in a music class—one of only two scenes in the film where we encounter an actual professor—Kirkland seems to be quite uneasy when he notices that Molly may actually be learning something. The students answer the music professor's question in Italian musical terminology which makes their answers laughable gibberish to most of the audience. In addition, Kirkland is also uneasy when he sees young women playing basketball at the beginning of the film. His involvement in the fixed basketball game at the end of the film seems to be motivated by more than a desire to win the gambling money. The viewer will notice that one of the co-eds is Kirkland's daughter who also seems to be attracted to Benson, the "progressive" dean. And Kirkland's fears are not entirely without basis. Slats and Oliver take their jobs with great enthusiasm for an opportunity to be "caretakers" for several hundred girls. The moment The Boys set foot on the Bixby campus, Oliver is immediately the object of thinly veiled sexual advances from several students! So the sexual aggression of the co-eds toward both Oliver and Dean Benson hardly suggests that Bixby is a place for serious young women who want an education. It merely reinforces the stereotype of the young college girl who is only in college to find a husband.

A feminist reading of *Here Come the Co-Eds* might also note the peculiar use of the word "co-eds" in the title of this film. The term "coeducational" typically referred to a college that was formerly all male that had begun to admit women . So, in that context a "co-ed" would be

a female student at a college that had previously not admitted them. But to refer to women students at a women's college as "co-eds" seems to imply a kind of cynical view that even women at a women's college should somehow be regarded as outsiders.[17] Note that only once in this film do we encounter a female teacher. She immediately allows Slats and Oliver to displace her as the instructor in her class. Even in the musical numbers performed by Phil Spitalny And His Hour of Charm All-Girl Orchestra Featuring Evelyn And Her Magic Violin, the only authority figure—Phil Spitalny—is a male.

E. Educational Policy?

Bixby College appears to be a place where no one—with the possible exception of the music professor who appears in only one scene and is not even given billing in the cast list—is interested in education. Consider for a moment a comparison with two other films with similar plots: the Marx Brothers's comedy *Horse Feathers* (1932) and the more serious (?) John Wayne film *Trouble Along the Way* (1953).[18] In both the Marx Brothers film and the Wayne film a college in financial trouble must be rescued by the protagonist by winning a crucial sports event. In the earlier film the Marxes direct considerable ridicule at stuffy, conservative professors but direct equal humor at college boys who are only in college to improve their sex lives (as personified by Zeppo Marx). In addition, Groucho (as Huxley College President Quincy Adams Wagstaff) jokes about whether to tear down the college in order to give more attention to football. I am inclined to regard the Marxes's humor as ironic and aimed at college administrators who have the wrong priorities.

The view that educational policy should take a back seat to sports has even darker consequences in *Trouble Along the Way*. In this 1953 film, a priest (Charles Coburn) who has mismanaged a Catholic college to the verge of bankruptcy hires a former professional football coach (John Wayne) who is willing to break every rule in the book to field a team composed of professionals and high school dropouts—one of whom is played by the legendary James Dean—that is good enough (according to Wayne's character) to "beat the Chicago Bears even if they use real bears!!" The humor ends when the discovery of Wayne's character's recruiting violations nearly results in the closing of the college and his losing custody of his daughter. But this film contains ambiguities. Coburn's character is shown to be a good teacher whose tutoring of Wayne's character's daughter (Sherry Jackson) results in her actually developing an interest in books and reading!!!! The priest confesses his mistakes and it is the mighty Roman Catholic Church (and not John Wayne!) that comes to the rescue in the end.

So, *Here Come the Co-Eds* can certainly be characterized as being an anti-intellectual film about education. But is also a film about a school that may be covertly controlled by criminals. Kirkland is concerned to maintain Bixby College's traditions simply so he can retain financial control of the school, but an additional motive for his actions may be to continue his involvement in illegal gambling. Benson seems to espouse a questionable form of "progressivism" that would simply require the school to adopt intercollegiate women's sports because this was the current trend in 1945. In other words, public relations would become identical to educational policy at Bixby College, should Benson triumph and rid the campus of Kirkland.

III. The Story

A. Prologue

In a "pure" comedy, the story begins in a "normal" situation and ends with events restored to "normal." For example, if *Abbott and Costello Meet Frankenstein* were written from a purist perspective, the story would end with Abbott and Costello contentedly back at their jobs as baggage handlers with no monsters in sight.[19] But the ending of *Abbott and Costello Meet Frankenstein* is made ambiguous by the sudden appearance (?) of The Invisible Man (the voice of Vincent Price) which suggests that The Boys may have more encounters with monsters in their future. And they do.

But *Here Come the Co-Eds* does not begin with The Boys in a "normal" situation. It begins at night with them working as taxi dancers in a dance hall—along with Slats's sister Molly—that may be controlled by crooks. From the beginning, Slats and Oliver are in trouble with "Boss" Diamond (Don Costello) and are subject to accusations from "Nearsighted Man" (Richard Lane)—a customer in the Miramar Ballroom—that Oliver and, possibly, Slats are making advances to his wife. Oliver's remarks state quite bluntly that he would rather be making love to the women customers than dancing with them. Slats is more interested in doing public relations work than working at the ballroom. He has already published an article in *Pip Magazine* about Molly's desire to give up taxi dancing and go to Bixby College—which he sees as a public relations coup. But Molly has no real interest in going to college and neither Molly nor Slats is even aware that there actually is such a school. Oliver's and Slats's conflicts with Nearsighted Man provoke a fight that results in Oliver's punching of the boss and his stealing a police car to escape. The boys are able to resolve their problems with the police but still lose their jobs. Suddenly Dean Benson appears carrying a copy of *Pip*

and offers Molly a scholarship and custodian jobs to The Boys. Their problems seem to be solved—for a moment.

B. The Main Events

According to Don G. Smith, in 1935 Chaney appeared under his real name of Creighton Chaney in the title role of a minor film entitled *The Shadow of Silk Lennox*.[20] He played a murderous underworld boss. Now, try to imagine *Here Come the Co-Eds* remade as a *film noir* with Chaney as the star and the comedy eliminated. The film could very well be entitled *The Shadow of Strangler Johnson.*

From the moment that Slats, Oliver, and Molly show up on the Bixby campus, Kirkland makes it clear that he objects to Molly's presence and Johnson makes it clear that he is going to ride herd on The Boys. Although this is never made perfectly clear in the film, I would suspect that Slats's connection with *Pip Magazine* may be the basis for Kirkland's hostility. However, Kirkland is evidently powerless to simply overturn Dean Benson's decisions. So behind The Boys' every action lurks the threat of reprisal from Johnson. Johnson's demands that Slats and Oliver clean up the custodians' quarters leads to Oliver's discovery of a pair of loaded dice among Johnson's possessions. This discovery certainly symbolizes Johnson's involvement with illegal gambling. Oliver's attempt to conceal his discovery by swallowing the dice results in a bizarre and rather brutal comedy routine in which Slats and Johnson play a crap game with Oliver's stomach and an x-ray machine in a science lab. Yet Johnson's attempt to terrorize Oliver fails. Throughout the film, Oliver jokes about being afraid of Johnson, but he usually just accepts Johnson's attempts to terrorize him as Johnson's normal behavior. So the prospect of Kirkland's being involved with the underworld and Johnson's using the tactics of an underworld enforcer are simply regarded as normal by The Boys.

This incident is followed by the scene involving the music professor mentioned above and leads to an extended comedy routine in what appears to be a creative writing class. In this scene, Slats and Oliver are cleaning a classroom when a class walks in. The Boys take control of the class from a passive female teacher and give the students some extended instruction on how to write a comedy routine. In this scene, Slats and Oliver seem to abandon the roles of Slats and Oliver and revert to the characters of Abbott and Costello! As the scene ends, Patty makes advances to Oliver (Lou?) and also delivers a message to Slats that Molly intends to quit school. A song follows with the lyrics: "Let's play house! Let's play games! Let's play school!" Of course no one denies that education is merely an illusion. In the following scene, Dean Benson

urges Molly not to leave school because to do so would be to give in to Kirkland's and Johnson's attempts at intimidation. (It would seem natural for Benson to praise Molly for what she has achieved in her music class, but in the context of this film such praise would only provoke mockery from Molly and—I guess—the audience.)

The following scene is another major slapstick comedy routine involving Johnson and The Boys. As Slats and Oliver attempt to convince Molly to stay in school—obviously because her departure would cost The Boys their jobs—Johnson is heard approaching the custodian's quarters where the discussion among Slats, Oliver, Molly, and Patty is taking place. The viewer is informed that the presence of the two women in the custodians' quarters will result in The Boys being fired and Molly and Patty being expelled. So a slapstick routine ensues in which Slats and Oliver succeed in concealing the women from Johnson's sight. As usual—in this film—Johnson's attempts to resort to violence to enforce college rules turn out to be futile. So although Johnson may be a symbol of evil, it is an ineffectual kind of evil that is consistently thwarted by Slats and Oliver. Johnson's behavior is still relatively consistent—as we would expect from a "flat " character—but forthcoming events raise doubts about the purity of the motives of the protagonists.

Now the climax begins. A new issue of *Pip Magazine* has been published which features a photograph of Oliver hugging Molly on the Bixby campus. Dean Benson is pleased by the publicity but Kirkland is outraged by the photo of a college student hugging a custodian and threatens to demand payment of the money that the college owes him. Since Benson lacks the funds to pay Kirkland off, Kirkland threatens to close the college.

Now the plot thickens seriously. Benson needs $20,000 to pay off Kirkland. The students find that they can win the 20 grand by betting $1,000 on Bixby at 20 to 1 odds in their forthcoming basketball game against top-rated Carlton College. But they lack even the $1,000 to bet on the game. The boys encounter a crooked wrestling promoter in town named Honest Dan (Joe Kirk) who is promoting bets on an incompetent professional wrestler called "The Masked Marvel." Oliver knows The Marvel as a compulsive overeater and is confident that he can beat The Marvel under the identity of "The Bixby Bulldog." The money is found and the match arranged, but at the last minute The Marvel becomes sick to the stomach and Honest Dan encounters Johnson who is persuaded to replace the "real" Masked Marvel. This is the event that results in Honest Dan's revealing Johnson's first name as being "Strangler."

So once again Oliver becomes involved in a supposedly dangerous situation involving Johnson. The wrestling sequence is rather long and

drawn out with real wrestlers serving as stand-ins for Chaney and Costello. But at the end, Oliver—with Patty's help—wins the match and Benson, The Boys, and the girls have the $1,000 they need to bet on the basketball game and save the school. But despite Lou Costello's genuine skill in basketball (even in drag) and the scrutiny of Bill Stern at the broadcaster's table, Bixby loses the game to the Amazons who have been brought to the basketball court by Kirkland to replace the Carlton varsity. And Oliver is somehow blamed for the defeat by all the Bixby girls including Patty! But as the legendary New York Yankees catcher Yogi Berra once put it succinctly: it ain't over till it's over.

C. Epilogue

As Johnson, Honest Dan, and the Amazons are dividing up the winnings in the locker room, Oliver stomps in, grabs the money, overturns a row of lockers, and runs off with Slats. As the hilarious chase begins it should be obvious to the viewer that Slats and Oliver may be just as crooked as their enemies. The ending of *Here Come the Co-Eds* introduces further ambiguities! When The Boys arrive at the Bixby campus with the money they have stolen they are confronted by Johnson and Honest Dan who momentarily steal it back. But Johnson and Honest Dan are immediately rushed by The Amazons who drag them away without noticing that Oliver has grabbed the money back. Kirkland then takes the money from Oliver and declares that because Bixby used only one ringer in the game while Carlton used five, the game is forfeited to Bixby! Kirkland then hands Oliver the money, who gives it to Slats who gives it to Benson who returns it to Kirkland! "Well! Right back to where we started!," remarks Oliver. Are they back where they started or have things actually gotten worse?

The film ends with a torchlight parade. Kirkland makes a speech praising Oliver to the night skies. But while the girls are holding Oliver on their shoulders, Patty is behind him with a torch setting his pants on fire! As Kirkland declares, "Well done, Oliver! Well done!," Oliver notices his flaming butt. "It certainly is," he says, resignedly. Let me point out that in the opening scene, Oliver is momentarily shown dancing with the neon figure of a woman as he and Slats attempt to escape from their angry boss and the police. Now he is being set on fire by the college girl who seemed to be attracted to him. Which do *you* think is worse?[21]

Notes

1. Harry S. Broudy, *Enlightened Cherishing: An Essay on Aesthetic Education*, Urbana, IL: University of Illinois Press, 1972, p. 111.

2. See Robert L. Carringer, Citizen Kane, *Journal of Aesthetic Education 9* (April 1975): 32-49. There is little controversy about *Citizen Kane* being a great film, so for a film teacher to use this study guide in a class would be what the British philosopher John Wilson would call a "model case" of Aesthetic Education. Should a teacher write a similar study guide for *Here Come the Co-Eds* and use it in a class, would that be a "contrary case" of Aesthetic Education—a mere time waster? I would hold that an attempt to seek a critical understanding of a lowbrow film such as this by using many of the same skills of inquiry that a student might use in critically evaluating and acknowledged masterpiece like *Citizen Kane* would be at worst what Wilson would term a "borderline case" of Aesthetic Education. See John Wilson, *Thinking with Concepts* (Cambridge, UK: Cambridge University Press, 1963).
3. Michael A. Oliker, On the Images of Education in Popular Film, *Educational Horizons,* 71 (Winter 1993): 72-75.
4. David Riesman, Nathan Glazer, & Reuel Denny, *The Lonely Crowd* (New York: Doubleday Anchor, 1953.
5. Don G. Smith, *Lon Chaney, Jr.: Horror Film Star, 1906-1973* (Jefferson, NC: McFarland & Co., 1996), pp.24-29.
6. Don G. Smith, pp. 35-41; Jeff Smith, The Movie's the Thing (Good Acting in Horror Films), *Films in Review* 36 (December 1985): 597-601.
7. Don G. Smith, pp. 113-115; 125-126.
8. M.H. Abrams, *A Glossary of Literary Terms* (New York: Holt, Rinehart, & Winston, 1965), p. 70.
9. For a sociological analysis of the influence of school custodians see David M. Rafky, Blue-Collar Power: The Social Impact of Urban School Custodians, *Urban Education,* 6 (January 1972): 349-372. And Ibid. 7 (April 1972): 5-32.
10. William S. Graebner, *The Age of Doubt: American Thought and Culture in the 1940s (* Boston, MA: Twayne, 1991).
11. Alain Silver & Elizabeth Ward, eds., *Film Noir* (Woodstock, NY: Overlook Press, 1979).
12. Anthony Tate & George Turner, The Inner Sanctum Movies, *American Cinematographer,* 67 (December 1986): 34-40.
13. Stephen E. Ambrose, *Nixon: The Education of a Politician, 1913-1962* (New York: Simon & Schuster, 1987), pp. 117-140.
14. On Abbott and Costello, see Stephen Cox & John Lofflin, *The Official Abbott and Costello Scrapbook* (Chicago, IL: Contemporary Books, 1990); Bob Furmanek, *Abbott and Costello in Hollywood* (New York: Putnam, 1991); and Jim Mulholland, *The Abbott and Costello Book (* New York: Popular Library, 1975).
15. Wheeler W. Dixon, *The "B" Directors: A Biographical Directory* (Metuchen, NJ: Scarecrow Press, 1985), pp, 511-513. There is little information about Yarbrough (whose name is often misspelled as "Yarborough"). I am grateful to my wife Marjory Oliker for bringing this book to my attention.
16. Tony Thomas. *The Films of Ronald Reagan* (Secaucus, NJ: Citadel Press, 1980), pp. 190-192.
17. *Webster's New Collegiate Dictionary* (1958), s. v. "Coed or co-ed."

18. See Michael A. Oliker, Popular Film as Educational Ideology: A Framework for Critical Analysis, in *Proceedings of the Midwest Philosophy of Education Society, 1993-1994,* eds. George W. Stickel & David B. Owen (Ames, IA: The Society, 1995), 85-90. (Forthcoming as an ERIC Document, Clearing House Number: SO 028 511.)
19. Northrop Frye, *Anatomy of Criticism* (New York: Atheneum, 1966), pp. 163-186.
20. Don G. Smith, pp. 16-17. I would like to thank Don Smith for persuading me to write this paper and for our many delightful discussions of the classic horror films of the 1930s, 1940, and 1950s.
21. Persons who wish to obtain a videotape of Abbott and Costello's *Here Come the Co-Eds* may do so by contacting John Sebert, Manager, Metro-Golden-Memories, 5425 W. Addison St., Chicago, IL 60641, telephone 1-800-538-6675, at a cost of $14.99 for the videotape plus $4 shipping and handling.

Binding Halves of the Self: R.D. Laing and a Troubled Adolescent

Anthony G. Rud Jr.
Purdue University

In the introduction to *The Divided Self*,[1] R.D. Laing contends that he is proposing a novel method of psychiatric inquiry. Contrasting his method to older forms of therapy, he characterizes his method as existential and phenomenological. In this paper, I examine briefly Laing's method of discussing schizophrenia. I then apply his insights to a particular case: a student I taught in a learning clinic for "emotionally disturbed" adolescents. I offer an outline of a work program that I led at that school. One of the aims of this program can be construed as an attempt to resolve the conflict between the inner and the outer self discussed by Laing. Finally, I hope to show that such a work program has aspects that do not merely prepare one to "fit" into society.

Laing begins his explication of his method by a comparison of the language of former psychiatric methods with what he wishes to establish as a "science of persons." This former language is primarily a language of things, and of human beings looked upon as things. Though Laing does not draw the specific comparison, the terms used by Descartes to describe the body come to mind. Descartes maintained a strict ontological dualism: There existed two substances in his world, minds, whose essence was thought, and bodies, whose essence was extension.

It is hard to underestimate the Cartesian influence in modern thought. Descartes's sharp distinction between minds and bodies has been uncritically extended into modern psychiatry. The language of mathematical physics used by Descartes and others is inadequate for the description of a person. For Laing a person is at least the "...complex of

things, of its, and the processes that ultimately comprise an organism."[2]

Similarly, in *Being and Time*,[3] Heidegger criticizes Descartes's ontology from fundamentally the same angle. For Heidegger, Descartes's mistake lies in his method. The particular entities that are grasped through mathematical cognition are those entities that are constantly "present-at-hand." For Descartes, what is ontologically constitutive of something is that which does not change, namely spatial extension.

More generally, we can see that the Cartesian ontology is not well suited for the study of persons, particularly schizophrenics. For as Laing shows, the self of the schizophrenic is split and often parts of it are hidden. If there can be said anything definitive about the schizophrenic self, it is certainly not constantly "present-at-hand."

Through a Hegelian turn of thought, Laing come to realize that the quantitative language used by the natural sciences is inadequate for his "science of persons." Hegel uses a dialectical method in his *Logic*[4] to explore the use of such logical concepts as quantitative terms. Briefly, Hegel argues that to view the world as solely quantitative (i.e., as a physical object with measurable qualities) is in a sense to falsify it. The world, human life, history, can all be described as least at a quantitative level.

Laing realizes the gist of such a criticism: his phenomenological method is two-pronged. Laing looks upon the human being as an object taken as *meant* in two different ways. One way, that of natural science and quantity, sees the object as a biochemical organism. Laing intimates that the problem deeply rooted in modern psychiatry is its identification of the object, *viz.* person, with a single meaning, *viz.* organism. Thus, in one way it is perfectly correct to see the body as merely a physical organism. This is one meaning we may attach to the object "body," and it has its use in medical and scientific circles, but a strictly limited use in psychiatric treatment.

Laing sees that the fundamental error to which psychiatry is prone is to believe that there can be an increase in understanding when a person has been translated into a "sequence or system of it-processes."[5] In the consideration of a patient as an organism under physical laws, rather than as a person, the therapist tends to believe that he has gained control of the patient. If one is able to quantify bodily processes, one has mastered the situation.

Counter to this view, Laing proposes that we look upon the patient as an *agent*. Here, Laing's work touches upon the old problem of free will and determinism in a fresh manner. If the doctor adopts a "hard" determinist outlook and considers the patient as no more than a natural body governed by physical laws, then, as Laing intimates, he abdicates his responsibility in the establishment of a "science of persons."

However, Laing is a "soft" determinist. Humans for Laing are also determined by causes within their own control: They are agents. In his analysis of the two intended meanings, human being as organism and as agent, there also could be said that there exist two forms of causality: physical causes, and self-causes. Each type of cause can act upon the object, *viz.* human being: physical causes when considered as a biological organism, and self-causes when considered as a person.

Laing's distinction of two intended meanings allows his "science of persons" to get off the ground. Let us now turn to a concrete case wherein we may see how Laing's method and particular insights may be applied.

Clay, the Troubled Adolescent

I spent a year as a houseparent and instructor in a "learning clinic" for adolescents with learning disabilities and emotional problems. I worked closely with one adolescent boy, whom I led in a summer work program. I shall first present a description of this student and then outline the work program I helped devise for him.

Clay (a pseudonym) was a tall, handsome young man of 15 when I worked with him that spring and summer. His handsomeness and engaging smile tended to fool most people into believing that he was the captain of the football team type that he appeared to be. He was severely disturbed and exhibited schizophrenic tendencies, mostly as a result of the death of his older brother when Clay was 13 years old. His older brother had been a popular man at his high school, and died in a car accident. Clay's parents were crushed by the death of their eldest son, and subsequently placed all of their hopes and expectations upon Clay. Yet Clay, though he was as handsome and personable as his older brother, was not as intelligent. Furthermore, his brother's death upset his ability to concentrate upon his schoolwork, and consequently he dropped many years behind his classmates. His mathematical ability was so severely arrested and disturbed that I was forced to use flash cards to review basic arithmetic.

Clay's ability to concentrate upon a single task was limited. He complained that his academic work was not giving him practical experience; he had to use his head rather than his hands all of the time. For him, it was too much of a strain. The staff at the school thought that Clay should be allowed to learn how to perform practical household things around the school, whereby he could incorporate his academic learning in a "hands-on" work situation.

Certainly the concept of a work situation for the treatment of emotional disturbances is not new. Nineteenth century practices for

treating the insane often consisted of hitching the person to a plow. It was thought that such an experience would help to dispel the tyrannical force of the patient's subjectivity, thus enabling him to realize that effective action in the world was possible. Roughly, this was the notion behind the work program that I helped to devise for Clay.

The program lasted over a summer: we spent one day a week in formal academic classes, while the rest of the week we did various chores about the school. One such chore was the laying of a new walkway for the school. This project involved both reading and basic mathematical skills, as well as elbow grease. I helped Clay measure the walkway and then calculate the amount of various kinds of gravel and sand needed. I also assisted him in his learning of the various purposes and reasons for the composition of the walkway. We also did spelling and vocabulary exercises with the new words that he learned in this chore. Finally, after the project was completed, I asked Clay to write a paragraph describing the procedure used in the construction of this walkway.

Clay had great difficulty in this assignment. He became distracted easily. He would complain of bodily sores and aches, and would balk in performing the academic component of this program.

Most of these difficulties could be traced to what came out in therapy sessions as Clay's difficulty in accepting authority and thus for being responsible for his actions. Clay was painfully sensitive to criticism. As a defense against such criticism, he would either feign physical illness or would do his work so sloppily that no responsibility could be placed upon him for even attempting the task.

To counter such actions on his part, we employed various techniques that would encourage him to be responsible for his actions. We considered this schizophrenic young man as a responsible agent, much as described by Laing. One technique was simple: Clay would not receive payment for a job poorly done. Deductions were also made for time that was idly spent. We realized that Clay should not be unduly punished for missing work, yet he should not receive any money for work poorly done or not done at all.

I saw two aims in this work program devised for Clay. The first would be the integration of his academic skills with his motor skills. I hoped Clay would improve his academic skills by seeing how they actually came to bear in concrete work situations. Conversely, we hoped that through the use of his body in various ways his limbs would become "educated"; he would learn the fine motor skills needed in drawing plans for the walkway he constructed. There would be a fruitful tie between mind and body, academic and motor skills. Clay could see how it was possible to act in the world, and that such action required a mutual crossover between mental and physical functions.

As Laing notes, schizophrenics often play at being mad in order to avoid being held responsible for their actions.[6] Clay's frequent bodily ailments and temper tantrums often came when he had to complete a task that I would then judge. I attempted to consistently hold Clay responsible for his actions, and treat him like a regular high-school boy that I would have to hire to perform these chores. This attitude was sharply opposite to that of his parents, who condescendingly treated Clay as "sick" and thus irresponsible for what he did. Treated in this manner, Clay's actions revolved in a vicious circle. He was expected to act irresponsibly, so he did, which in turn garnered only the veiled scorn of his parents.

One particular incident still is vivid in my mind, now years later. I asked Clay to help me paint my grandmother's house, offering to pay him for the work. We traveled an hour to this job each day for several weeks. One day Clay removed his seatbelt on the way back and refused to wear it. I stopped the car and told him that I would not tolerate this and asked that he get out of the car. I then asked that he get back in the car and put on his seat belt. He refused, and after a tense few moments, I told him that I would drive away. He still refused to put on the belt, so I drove off, hesitant that I had made the right decision. He hitchhiked an hour back to the school, and remarked when he arrived that he did not believe that I would stand my ground. I would never do such a drastic action again (my fortysomething sensibility now shudders at teenagers hitchhiking) but I did signal to Clay that I would not budge on a principle.

Conclusion

The work program for Clay had two basic goals consonant with Laing's psychiatric aims. The first was the promotion of a unification of the mind and body by showing the interdependence of academic and motor skills in a work situation. The second was the treatment of the person as an embodied mind, an agent, rather than a thing. As an agent, Clay was held responsible for his actions. He saw that what he did in his work situations had real consequences for other people: Clay garnered praise whenever he completed a task well, and mild reproach and disgust whenever he did something half-heartedly or not at all.

I still believe that a summer work program for such adolescents allowed these young men to see that positive action in the world was possible. These young men could go confidently in the world, either gaining more formal education or learning a trade or skill. We did not prepare these students for "adjustment" into society; perhaps naively we thought that it was more than enough to create the conditions wherein a severely disturbed young man could learn that effective action was

possible. We at the clinic believed that certain types of familial settings were prone to exacerbate neurotic behavior. Many of the parents of the children at this school were preoccupied in high level corporate business or law. Such parents generally do not devote enough attention to their children.[7]

It may not be enough to heal the divided self. The fragmented family in our culture and the competing claims and interests for time often contribute to further schism. Clay and his family were tragic in this sense. The loss of the favored eldest son drove the parents into the balm of obsessive work. Clay was not able to comprehend the loss, and what weaknesses of his character were further magnified.

The school where I taught Clay came upon rocky times recently, and closed its doors. I did manage to inquire about Clay, now a man in his mid thirties. Still single, Clay works alone as a housepainter.

Notes

1. R.D. Laing. *The divided self*. New York: Pantheon Books, 1969.
2. *Ibid.*, p. 20.
3. Martin Heidegger. *Being and time* (trans. J. Macquarrie & E. Robinson). New York: Harper, 1962.
4. G.W.F. Hegel. *The science of logic* (trans. A.V. Miller). New York: Humanities Press, 1969.
5. Laing, p. 22.
6. *Ibid.*, p. 164.
7. See Arlie R. Hochschild. *The time bind: When work becomes home amd home becomes work*. New York: Metropolitan Press, 1997.

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